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USSR Report

AGRICULTURE

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18 January 1985

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MAJOR CROP PROGRESS AND WEATHER REPORTING

HARVEST OPERATIONS IN NORTHERN CAUCASUS DETAILED

Moscow SEL'SKAYA ZHIZN' in Russian 16 Oct 84 p 1

[Article by S. Lorsanukayev, SEL'SKAYA ZHIZN' correspondent: "Every Hour is Valuable"]

[Text] The valleys in the Northern Caucasus wake up with the dawn. The harvest times for corn, potatoes, and grapes have arrived at the same time, and feed procurement is continuing. Rural workers value every hour of the intensive harvest time.

The largest corn field in the North Osetian ASSR covers 2200 hectares and is at the State Farm imeni Tsagolov. It now looks like a bee-hive that has been stirred up: machinery and tractors with carts pull up to combines and leave loaded with golden grain. Everyone knows his route and the time allotted for loading and unloading. The level of labor productivity is high. Contract links and mechanized detachments have been assigned to all the fields.

K. Dzagiev stopped his "Khersonets-200" combine at the edge of the field. I had heard a lot of good things about him: an excellent worker, winner of various orders. This is his 24th harvest. The collective of the detachment that he leads pledged to harvest 70 quintals of corn from each of the 657 hectares assigned to them.

Corn has become the leading crop in the North Osetian ASSR. The area sown to corn has almost doubled over last year and totals over 47,000 hectares. The new hybrids have made it possible for the farms to increase their procurement of green fodder by a factor of 1.5-2. The tangible changes have been made possible primarily by the fact that today one-third of the crop land is under irrigation. Land improvement operations have been carried out and the arable land area has increased by 9 percent. The second stage of the largest irrigation system in the Northern Caucasus has been put into operation in the Mozdok steppe; this system uses underground water. Seed corn is the major crop in these improved tracts. Under irrigation the land yields three times as much grain as produced in dry farming. Today in the North Osetian ASSR there are 144 harvesting and transport brigades and complexes working on plantations.

Corn farmers in Kabardino-Balkariya are also working to complete the harvest in a short period of time. A total of 115 harvesting and transport detachments have been put to work in the fields. Even though this year was not one of the

best, the corn farmers do not intend to fall behind their planned goal: to sell 113,000 tons of seed to the state, while the plan calls for only 90,000 tons. The hybrid "Krasnodarsk-1/49" accounts for the largest share of the procurements. The plan calls for 60,000-65,000 tons of its seeds.

Kabardino-Balkariya has become known as a leader in the cultivation of corn. One-third of the contract mechanized links and detachments exceeded the goal of 60 quintals of grain per hectare. Corn covers one-third of the land sown to grain in the republic and every year it accounts for more than half of its total grain harvest. Last year over 100,000 tons of grain were sold to the state, and this year even more will be sold.

We visited the "Krasnyy Kavkaz" [Red Caucasus] collective farm in Baksanskiy Rayon. On both sides of the road there was a wall of corn standing two meters high.

A. Kurmanov, chairman of the farm, said, "That's the plantation of our best link leader, Khamidbi Gutov. Every stalk has two or three ears. The link has decided to harvest at least 100 quintals of corn from each of their 250 hectares."

The harvest at other farms in the rayon is also encouraging. The harvest work is going smoothly. The RAPO [rayon agro-industrial association] soviet resembles a combat headquarters. All the information on the state of affairs at various sites comes here, various requests are received that involve not only production matters, but social and domestic issues as well; and the soviet hears claims by farmers against their partners. The "Krasnaya Niva" [Red Cornfield] kolkhoz in Mayskiy Rayon managed to avoid extra expenditures of labor and time by using a separate harvesting method. Combines only harvest the ears of corn and process them into grain on a special ear-sorting line. Losses have been reduced. In a year one new line helps to process over 400 tons of corn. Quality indicators have improved as well. Today there are 150 such lines operating in Kabardino-Balkariya.

There are fewer of these lines in Chechen-Ingush ASSR. They are forced to operate beyond their normal capacity because there was a fairly good harvest in the republic. Several farms are harvesting up to 70 quintals of corn from per hectare. Murat Bekov, director of the "Nazranovskiy" state farm is satisfied. His farm has settled its accounts with the state. Corn is now being sent to elevators to cover the farm's obligations.

In the republic corn is harvested rapidly and without losses. This spring 40,000 hectares were sown to corn. All this planting was done using industrial methods and therefore the harvest is good. One can be sure that the republic will sell the country the same amount of corn that the farmers promised at the beginning of the year.

Workers at the grain receiving enterprises are also working hard. They prepared well for the harvest season and expanded the enterprises' drying capacities. For example, at the Nartkala center corn goes through a two-stage drying process which improves the quality of the seeds. Many innovations have also been introduced at the Prokhladnenskiy grain receiving enterprise. The

"Pektus" system for ventilation and drying of the corn was used here for the first time in the republic. A gentle processing method is being developed. In spite of the fact that there are few large-capacity scales and the KamAZ [Kama Motor Vehicle Plant] trucks cannot be handled here, you won't see traffic jams or lines of trucks outside the gates of the grain receiving enterprises.

The seasonal load on harvesting equipment at a number of farms in the autonomous republic is high. In Baksanskiy and Terskiy rayons the load reaches 140 hectares. Grain harvesting combines could be used but there is a shortage of PPK-4 attachments.

Kh. Gutov, an outstanding corn farmer in Baksanskiy Rayon, complained: "We also don't know where to get spare parts for the 'Khersonets-7' combines. They have been withdrawn from production. However, like other farms, we still have good maintenance. Unfortunately, the machine builders were too hasty in cutting back production of spare parts for this machine."

There are other problems. There is a shortage of drying facilities. Farms are forced to keep the harvested corn in their own facilities for a period of time and they perform the post-harvest processing. Often kolkhozes and sovkhoses build small processing lines and threshing floors, using up a large quantity of metal and other products that are in short supply. And these lines do not always operate efficiently.

Corn farmers are faced with a number of other problems. For example, they must increase the proportion of early-maturing and mid-early corn hybrids in their sowing operations. This would expand the cultivation range. Today the kolkhozes and sovkhoses in the autonomous republic produce not only marketable grain but also seeds. The farms could sell more, but they are forced to keep quite a bit of grain for fodder: they are not provided with mixed feed. There is a rule that farms are to be provided with fodder in exchange only for certain varieties of seeds, the exact selection of which is reported by the farmers only on the eve of the harvest.

Corn farmers are worried about another situation: the drying capacities of procurement enterprises in Kabardino-Balkariya can handle about 5000 tons of grain per day, but the peak flow of grain from farms reaches 10,000 tons. The drying process is prolonged by 3 or 4 months. Workers at the grain receiving enterprises have little interest in preparing the seeds.

There are other unresolved issues. For example, workers at the Kabardino-Balkariya agricultural experimental station have proposed that grain be delivered directly to elevators, eliminating the threshing stage. The demand for transport would be cut almost in half and the need to build cumbersome and expensive processing lines at farms would be eliminated. Specialists at the republic's grain products administration have supported this new method, but no one seems in any hurry to develop it.

MAJOR CROP PROGRESS AND WEATHER REPORTING

NEW GOALS SET FOR HARVEST

Moscow SOVETSKAYA ROSSIYA in Russian 13 Sep 84 p 1

[Article by V. Shanayev: "The Amber Osetian Grain"]

[Text] Agricultural machinery has once again appeared in the Mozdok steppes: the harvest of early-maturing varieties and hybrids of seed corn has begun. Machinery operators in the combined brigade led by P. Gasiyev, winner of the USSR State Prize, won the right to open the counting of threshed corn. This farm has 1250 hectares planted to corn and over the entire area the corn is now cultivated using industrial technology.

P. Gasiyev said, "Quite recently it was considered that combine operators were doing outstanding labor if they threshed 350 quintals of ears per day. Now, at the initiative of our kolkhoz, competition has been spread throughout the rayon to bring the daily output up to 550-600 quintals. The machiney operators have proved that even seed corn with a higher moisture content can be harvested day and night on an accelerated schedule."

The "Leninskiy put'" [Lenin's Way] kolkhoz has concentrated equipment in large harvesting and transport brigades; the farm has 1400 hectares planted to corn, which is more than any other farm in the rayon.

A. Stolyarenko, winner in last year's harvest competition, said: "This makes it possible for us to make maximum use of the equipment and obtain the highest return, and to save fuel and lubricants."

Workers in Ardonskiy Rayon started harvesting corn after the Mozdok steppe farmers. They have also managed to thresh large quantities. The corn is grown in ridges. This method, developed by specialists at the North Caucasus Mountain and Foothills Agriculture Scientific Research Institute, has quite a few advantages. Not only is the yield higher, but there is better utilization of moisture and fertilizer, and the ears ripen almost 3 weeks earlier. Here, as in the Mozdok steppes and throughout the republic, the use of industrial technology has spread. Where this method has been introduced cost accounting subdivisions are harvesting the grain: the new technology has brought to life a new form of labor organization.

Combine operators are already thinking about the future, about new ways to increase the harvests even more. For example, P. Gasiyev said:

"We are worried about the losses of grain which we unfortunately cannot seem to avoid, since the corn harvesting combines have not been perfected. They literally throw the ears and the grain all over. We are forced to send people out to collect the corn by hand. The combines' mechanisms also 'traumatize' the corn, especially when there are large stalks. We are waiting for designers to perfect the combine."

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MAJOR CROP PROGRESS AND WEATHER REPORTING

AERIAL SPRAYING USED TO PROMOTE RIPENING

Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 10 Oct 84 p 1

[Article by P. Shchuplov, KAZAKHSTANSKAYA PRAVDA correspondent: "Through the Efforts of Pilots and Farmers"]

[Text] Today in the fields of oil-bearing crops in the oblast one can see helicopter pilots and combine operators working at the same time. When we visited we found the pilot Aleksandr Kovalev and the technician Igor' Romanov on one of the tracts. They were loading their "MI-2" helicopter with water and region. They then took the helicopter up and started spraying the emulsion over the field.

Comrade A. Kovalev, and helicopter pilots Viktor Chernyshev, Valeriy Andreyev, and others, have prepared hundreds of hectares of sunflowers for harvest.

Vladimir Marchenko, chief of the helicopter service, said: "We have treated a total of 25,000 hectares of oil-bearing crops from the air. Because of our help the sunflower crop has ripened a half a month early."

The farms have a large area of oil-bearing crops to harvest. At the Kolkhoz imeni Zhdanov in Shemonaikhinskiy Rayon alone 1700 hectares are sown to sunflowers. Last year the farmers at this kolkhoz brought in a big harvest and sent 25,000 quintals of seeds to the elevator, which was 1200 quintals above the plan. This year they have promised to continue their success.

The sunflower harvest has also begun at farms in Shemonaikhinsky, Glubokovskiy, and Samarskiy rayons. There are almost 47,000 hectares to be harvested throughout the oblast. Over 60,000 tons of oil seeds will be delivered to the state.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

NEW METHODS FOR SUNFLOWER HARVEST PLANNED

Krasnodar SEL'SKIYE ZORI in Russian No 5, May 84 p 39

[Article by G. Lapchenkov, docent at the Don Agricultural Institute and candidate of agricultural sciences; and M. Lapchenkova, senior instructor and candidate of agricultural sciences]

[Excerpts] Workers in the Don region have set themselves the goal of bringing the production of oil seeds in the 11th Five-Year Plan up to 1 million tons. This goal will be met only by increasing the yield through the introduction of industrial technology based on comprehensive utilization of the latest scientific and technical achievements.

When sunflowers are cultivated using industrial methods, the processing charts do not provide for treating the soil between the rows, since the application of herbicides rids the fields of weeds. There is a single treatment of soil between the rows only when the weeds are very dense. We believe that these recommendations were made without the proper experimental verification in various soil and climatic zones.

In 1982 farms in Rostov Oblast cultivated sunflowers using industrial methods over 90,000 hectares. Last year this area was increased to 182,000 hectares, and this year there are plans to expand it to more than 200,000 hectares. This will make it possible to increase the harvest of seeds significantly, and most important, to reduce the cost of the product.

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MAJOR CROP PROGRESS AND WEATHER REPORTING

BRIEFS

SUNFLOWER HARVEST BEGINS--Krasnodar, 28 Aug (TASS) -- Farmers in the Kuban region have started the mass harvest of sunflowers. Today machinery operators from southern and central regions drove combines out onto the "sunny flower" plantations. The first hundreds of tons of the oil seeds have been delivered to processing enterprises. The transition to cultivation of hybrids that mature considerably earlier and that have a high yield has made it possible to begin the sunflower harvest in August. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 29 Aug 84 p 1] 9967

NEW SUNFLOWER VARIETIES PLANTED--Sunflower planting has begun in the Kuban region. Varieties and hybrids developed by scientists at the All-Union Oil-Bearing Crops Scientific Research Institute imeni V. S. Pustovoyt are being sown at various plantations. Special attention is being given to the "Jubilee-60" sunflower. It is resistant to plant diseases and pests. In dry farming the yield is 40-42 quintals of seeds per hectare, and 48 quintals when irrigation is used. The seeds have a high oil content. The area of land sown to the fast-maturing "VNIIMK-80" variety, which matures in 80-85 days, has also been expanded considerably. [Text] [Moscow PRAVDA in Russian 6 Apr 84 p 1] 9967

SUNFLOWER HARVEST REPORTED--Elista, 19 Oct (TASS) -- Combine operators in Kalmyk ASSR are threshing sunflowers in two shifts. Almost 18 quintals per hectare have been harvested for the first time under the dry steppe conditions. Processors are also achieving high results. From every hectare harvested they obtain almost one ton of oil. [Text] [Moscow SEL'SKAYA ZHIZN' in Russian 20 Oct 84 p 1] 9967

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IMPROVED CONTENT, QUALITY OF FEED RESOURCES SOUGHT

Moscow ZHIVOTNOVODSTVO in Russian No 10, Oct 84 pp 44-46

/Article by K.M. Solntsev, academician at the All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "Improving the Structure of Feed Resources"/

/Text/ Provisional achievements in the theory of animal nourishment and studies of biologically active substances and their interaction in metabolic processes have expanded the scientific basis for balanced feeding. And the more rich the feeding of animals, the higher the quality of their output.

The workers in animal husbandry and feed production are solving the task of creating a stable rhythm for increasing the milk and meat productivity of cattle. Analysis has shown that despite the fact that feed consumption per standard head of cattle over the past 15 years has been maintained at an average annual level of 2,600 feed units (plus 210 and minus 80 feed units), the structure of the feed balance and quality, especially in terms of protein content, has deteriorated. For example, in 1965 there were 5.7 tons of pasture feed per ton of grain concentrates and in recent years this figure has decreased by a factor of 2.3 (an average of 77 grams of digestible protein in 1 feed unit of grain). The use of pasture grass did not increase during this period but rather it declined (an average of 119 grams of digestible protein in 1 feed unit of green feed). In 1981, during the indoor maintenance period, an average of 495 kilograms of hay was consumed per cow (in 1 feed unit of medium quality hay -- 104 grams of digestible protein). In 1970, on farms in the RSFSR, 780 kilograms of hay were expended per dairy cow and subsequently this norm decreased to 450 kilograms.

The mentioned changes in the structure of the feed balance brought about a reduction in the biological richness of the feed. In the feed consumption structure for hog raising, the use of succulent, coarse and green feed decreased from 21 to 8 percent and the level of concentrates increased from 72 to 84 percent. As is known, these changes did not produce positive results.

What will be the trend in subsequent improvements in the structure of the feed balance?

A study of the experience accumulated in improving the structure of the feed balance for productive animal husbandry on the better farms and in leading oblasts and republics and also an analysis of foreign experience reveal that

this process is unfolding in several directions: the production of grass feed, especially hay and pasture feed and also grass cuttings and meal is increasing at a rapid rate; the production of corn silage of a raised nutritional value (with ears of waxy ripeness) is being expanded; the production of plant protein is increasing through the cultivation of pulse crops and leguminous grasses and also through the use of oil-seed meal obtained from the processing of technical crop seed; the production of high yield grain crops is increasing; the production of root crops is being held at a level which makes it possible to maintain the sugar-protein ratio within the required limits for the rations and to achieve a high milk productivity in the animals; economic technologies are being mastered for the industrial processing of straw and for obtaining rich feed mixtures on this basis; the production of mixed feed both directly on the farms and in industry is being expanded; the conversion over to feeding beet pulp residue, brewing waste, alcoholic mash in dry form in mixed feeds and feed mixtures is being accelerated; radical measures are being taken aimed at improving the quality of feed through strict observance of the technology for cultivating and harvesting it and during its preservation and storage in standard special containers.

The kolkhozes and sovkhozes, in solving the tasks concerned with carrying out the Food Program, will perform a great amount of work in connection with the above-mentioned directions and achieve an increase in the production of feed and improvements in its quality.

Over the past 3 years, an increase has taken place in the overall volume of feed produced, especially hay. In the process, there has been a mass conversion over to progressive technologies for procuring it, using such methods as forced ventilation and pressing in short bales (experience of farms in Leningrad Oblast).

It is significant that those republics which devoted the most effort to increasing the production of this type of feed achieved a rather high increase in the dairy productivity of their cows. For example, in the Ukrainian SSR more hay was allocated for public livestock husbandry during 1983 than was made available the previous year, with the increase amounting to 40 percent, in the Estonian SSR -- more by 25 percent and in the Latvian SSR -- more by 29 percent. The milk productivity in these republics was raised on the average by 233, 317 and 243 kilograms respectively per cow.

The growth in the procurement volumes for hay must continue in the future. In order to obtain 3,000 kilograms of milk annually from a cow, its daily ration must contain 5 kilograms of herbaceous-leguminous hay, or approximately 1 ton throughout the entire indoor maintenance period, the same amount that is required for one head of young cattle stock.

Throughout all periods in the history of our animal husbandry operations, pastures have invariably served as the chief base for summer feeding in many regions of the country. They determined the productivity of cattle husbandry and sheep raising and also the level of development of animal husbandry. During the initial years in the development of meat and milk production on an industrial basis, an erroneous opinion arose regarding the incompatibility of pasture maintenance with an industrial technology. The plowing up and

elimination of pastures on some farms caused great harm to animal husbandry. Life has convincingly shown that the production of milk and meat on an industrial basis is carried out most effectively on those farms where highly productive pastures have been created and are being utilized to the maximum possible degree. Many examples are available for citing. Thus, at the Petrovskiy Sovkhoz in Leningrad Oblast, 1,000 cows of a dairy complex spend the entire summer on a cultivated pasture. In 1983, an average of 6,565 kilograms of milk per cow was obtained here and the expenditures per quintal of milk produced amounted to 111 feed units. The farm is obtaining 90 calves for every 100 cows. The profitability level for milk production is 67 percent and last year the farm realized 1,256,000 rubles worth of profit.

Scientific studies and leading experience have shown that for a yield of 3,000 kilograms of milk, the proportion of green feed in the rations in the nonchernozem zone of the RSFSR must be not less than 31 percent. Each farm should have a highly productive pasture. This will promote an improvement in the health of the animals and it will raise their productivity and reproductive functions.

For many years now, the feed balance has been characterized by a deficit in a very important component for rich animal nourishment -- root crops. The plans for root crop production are constantly being underfulfilled owing to a high level of manual labor required for their cultivation and a shortage of technical equipment. It bears mentioning that an absence of root crops in a cow ration (after an annual yield of 2,500 kilograms of milk has been achieved) slows down the rate of growth in milk productivity. Root crops should not be replaced by other types of feed. The production of root crops must be accelerated in all areas.

In 1982-1983, the procurement of straw exceeded the planned computations. A further increase in grain production will naturally bring about an increase in the procurements of straw. In this regard, special importance is being attached to the problem of efficient processing of feed, raising its nutritional value and using it in the preparation of feed mixtures. When feed mixtures are fed to animals, the principle of the feeds mutually complimenting one another in terms of the nutrient structure is realized. A type of mixed feed is obtained which is 10-15 percent more nutritious than the individual feeds included in it.

Today, following an extensive production check on the effectiveness of use of feed mixtures, their use is considered to be a new and modern trend in the efficient use of feed and one which ensures growth in the productivity of animal husbandry.

At the present time, our agriculture is prepared for the practical solving of the problem -- the creation of a state feed reserve from straw and a complex of enrichment agents in granulated and briquetted form. During years marked by a low level of feed, this reserve fund will promote the maintenance of an optimum feeding level.

Animal husbandry in the future will be an industry which operates mainly on the basis of non-grain raw materials. The zootechnical science foresees the development of many new trends in the feed production technology. One such

trend involves a reduction in the consumption of concentrates through considerable improvements in the concentrate balance.

The losses caused by a poor balance in concentrated feeds are still great; they result in failure to obtain many thousands of tons of livestock products. A study of domestic and foreign experience in the use of concentrated feed underscores the need for introducing certain corrections into the existing structure for products being produced by the mixed feed industry. In European countries which have intensively developed livestock husbandry operations, the production of various types of compensating additives is increasing rapidly and this is making it possible in the various areas to prepare mixed feed using internally produced grain. For example, in France, industrially produced mixed feed constitutes only 50 percent of the gross quantity of concentrates being used.

In view of the large requirements of livestock husbandry for additives, the production of compensating additives has already been organized in some oblasts and republics, based upon initiative displayed by the agricultural organs. Great importance should be attached to this fact.

Just as in the past, the question concerning microelements in mixed feeds and premixes continues to be an important one with regard to solving the problem concerned with increasing the production of rich mixed feeds. Over the course of a number of years, a well known rule has developed in this regard -- the more intensive the development of the mixed feed industry, the sharper will be the void separating the requirements and delivery volumes for microelement salts, vitamin preparations and amino acids.

The industrial ministries which supply microelements for the production of mixed feeds must heed the recommendations of science regarding the ineffectiveness of use of sulphates of iron, copper, zinc and cobalt in mixed feeds and premixes. Their high degree of inactivation of the biological activity of vitamins and antibiotics lowers the overall effectiveness of the enrichment of mixed feeds by biologically active substances.

According to estimates by specialists attached to the USSR Minzag /Ministry of Procurements/, if the requirements of the mixed feed industry for biologically active substances were satisfied completely, it would be possible to produce additionally at the kolkhoz and sovkhoz farms and also at poultry factories 400,000 tons of pork, 110,000 tons of beef, 2,600,000 tons of milk, approximately 10 billion eggs and almost twice as much broiler meat.

For many years the specialists have been raising the question concerning improvements in the use of beet pulp residue. The existing practice of feeding pulp residue in a damp (acid) form rather than in dry form causes great harm to the feed base for animal husbandry. For decades the USSR Minpishcheprom /Ministry of the Food Industry/ has been trying to justify its inability to organize the drying of all pulp residue being produced, owing to a shortage of drying equipment and fuel. At the present time, only roughly 20 percent of the pulp residue is being processed into dry high concentrate feed (0.84 feed units in 1 kilogram), with the remaining amount being processed by the sugar plants into a damp form (0.09 feed units in 1 kilogram), with losses of more than

one half of the nutritional value of the feed and thereafter it is turned over to nearby kolkhozes and sovkhoses for feeding to the livestock. It has been estimated that 1 million tons of fuel are required for organizing the production of dry concentrated feed from the entire amount of dry pulp residue being produced by the sugar industry; this will produce approximately 5 million tons of concentrates. Considerably more fuel is expended for the production of an equivalent amount of grain forage in field crop husbandry. USSR Gosplan must focus attention on this reserve.

The structure of the feed balance is associated directly with the quality of the feed. The problem of improving the quality of all types of feed is of tremendous importance. It exerts a very strong influence on the intensification of animal husbandry operations. For example, the 1983 hay production plan was fulfilled by 108 percent in terms of tonnage and in terms of nutrients in the hay -- only by 92.9 percent. For haylage, the figures were 99 and 84.5 percent respectively and for silage -- 100.8 and 85.6 percent.

The importance of good quality modern storehouses for coarse and succulent feed is generally well known. However, the construction rates for standard feed facilities are still not adequate. For example, farms in the nonchernozem zone of the RSFSR have hay storage facilities sufficient for satisfying only 11 percent of their overall requirements, haylage and silage storehouses -- approximately 64 percent, facilities for the storage of grass meal and granules -- 47 percent and root crop storehouses -- 6 percent. The storage of hay in ricks, silage and haylage in dirt trenches and root crops in clamps leads to considerable losses and to a reduction in the quality of the feed and in its nutritional value.

The existing practice of developing plans for ensuring that animal husbandry is supplied with feed includes computations of the requirements for natural feed and feed units. The preparation of an annual protein balance has already become a rarity; it is no longer acceptable to develop balances for phosphorus, calcium, microelements or vitamins (such balances do not make it possible to forecast correctly the productivity of animals). It should be remembered that the development of scientifically sound balances for feed, by animal types and for a rayon, oblast or republic, is a responsible undertaking and one which predetermines the fulfillment of the state plan for the production of animal husbandry products.

We believe that the distribution of feed resources among the individual branches of animal husbandry will beyond any doubt constitute a solution for the problem of increasing the production of meat in conformity with a scientifically sound structure for the consumption of beef, pork, mutton and poultry meat. Naturally, this applies to all groups of feed, including the production of mixed feed. However, in the long-range plans for the development of the mixed feed industry, the proportion for the production of mixed feed, for example for hog raising, remains practically at the same level with a trend towards a slight reduction and for poultry raising -- a more considerable reduction. The prospects for the production of BVD /protein-vitamin additive/ reveal that its production for cattle will predominate over the production of this additive for hogs.

The accelerated development of animal husbandry and its intensification require the adoption of active measures aimed at further improving the structure of the balance and raising the quality of the feed being produced for animal husbandry.

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LIVESTOCK FEED PROCUREMENT

RATIONAL USE OF POULTRY FEED DISCUSSED

Moscow SEL'SKAYA ZHIZN' in Russian 2 Dec 84 p 1

[Article by R. Rautits, candidate of agricultural sciences and deputy director of the Tallinn, Estonian SSR: "In Pursuit of Quantity"]

[Text] It is known that the repayment from feed is considerably better in poultry raising than it is in other branches of animal husbandry. For example, two and a half to three kilograms of feed are expended in order to obtain a kilogram of weight gain in broilers. In order to obtain the same weight gain on a hog farm, up to 5 kilograms of feed are required. Even more feed units are expended for the production of a kilogram of beef, with a considerable portion of this feed being grain forage. This is why we are undertaking measures in our republic aimed at lowering the consumption of concentrates on cattle farms. Coarse and succulent feeds are becoming the principal types of feed here and raised norms for concentrated feed are being given only to those animals which are producing 6 tons of milk or more annually. Work is being carried out aimed at returning green and succulent feeds to the rations for hogs; earlier such feed was almost completely replaced by grain concentrates on some farms.

The possibility also exists of realizing economies in the use of feed in poultry raising. Experience has proven: when nine out of ten hens are laying eggs, when 139 kilograms of feed are expended for the production of 1,000 eggs and if egg production drops to 30 percent, then the expenditure of feed is immediately raised to 304 kilograms. And in raising the egg production of poultry, we simultaneously lower the consumption of concentrates per unit of product.

The principal means for achieving this is well known: the laying hens must be healthy and they must consume their feed completely. Nevertheless the edibility of the feed often decreases at poultry farms. This occurs when the grass meal -- one of the components -- has less than 16 percent protein and more than 24 percent cellulose. And indeed, during the period of high egg production, hens must be provided with feed containing not more than 6 percent cellulose and 14 percent ash. The quality of the meat-and-bone meal must be monitored, many batches of which contain excessive amounts of collagen or during treatment are subjected to such high temperatures that the amino acids in them are destroyed. Stale and moldy feed is not consumed very well.

Economies in the use of forage to the point of underfeeding poultry are unacceptable. Many hens, during the period of high egg production, have weights which are considerably lower than the optimum weight. Nor is it a simple task to restore this weight. Under normal feeding conditions, a laying hen should be provided with 0.03 grams of feed for each gram of live weight. Four times more concentrates are required in order to recover a gram of lost weight. This then is the result of such "thrif."

Correct feeding is the foundation for economic stability at any poultry raising enterprise. But such feeding is dependent non only upon the poultry producers. A great and at times adverse role is played here by our partners. Allow me to cite an example drawn from my own experience. Over the past 5 years, the production cost for 1,000 eggs at the Tallinn Poultry Factory has not exceeded 41 rubles. Yet last year the cost of 1,000 eggs reached 45 rubles: enterprises of the mixed feed industry had supplied us with low quality feed and thus we had to introduce various additives into it at a cost of hundreds of thousands of rubles. All of this adversely affected one of the principal economic indicators.

It is vexing to note that no improvements are apparent and that the content of protein and metabolic energy in the feed is decreasing. The mixed feed enterprises are increasing the protein content in the feed and still we have a considerable deficit of protein in the feed. Recently a letter was sent out to the various areas authorizing a reduction in the protein content in feed for laying hens to 13.3 percent and that of metabolic energy -- to 250 kilocalories. And indeed up until now we considered feed to be normal only if it contained 17 percent protein and 270 kilocalories of metabolic energy. The reason for this was generally clear -- a shortage of raw materials at the mixed feed plants. But if there is a shortage of the components required, then even more importance must be attached to making the best possible use of each kilogram of them.

What will happen if the poultry houses are supplied with feed that was prepared in accordance with the new recipes. First of all, a reduction will take place in the egg production of the poultry and their health will decline. As a result, egg production will decrease, unproductive expenditures of forage will increase and we will expend mixed feed in vain, obtaining very little in return in the form of product. Up to 10 tons of deficit mixed feed will be expended daily at one of our poultry factories, with no return coming back in the form of payment or product.

It is time to take a realistic look at this problem. If there is not enough raw material for the production of full-value feed for all of the animals, then certainly the quality of the feed should not be lowered. Instead there should be a temporary reduction in the number of poultry. Such a measure is almost painless. Although several years are required for a cow to grow, a flock of laying hens can be restored within a matter of a few months. We will obtain cheap products using full-value rations and we will not have to maintain five non-laying hens out of every ten, wasting mixed feed on them in the process.

7026
CSO: 1824/131

LIVESTOCK FEED PROCUREMENT

FEED QUALITY CONTROL PROBLEMS

Moscow EKONOMICHESKAYA GAZETA in Russian No 40, Oct 84 p 9

[Unattributed article: "They Check on the Quality of Feed"]

[Text] Recently a collegium of the USSR State Committee for Standards held a joint conference with representatives of the USSR and RSFSR procurement ministries, the USSR Ministry of the Food Industry, the USSR Ministry of the Meat and Dairy Industry, the USSR State Committee for Forestry, the Main Administration of the Microbiological Industry and the RSFSR and USSR ministries of agriculture to review the problem of mixed feed quality.

Checks of more than 10 types of this product for various age groups of cattle, sheep, hogs and poultry, conducted by GOSNADZOR [State Inspectorate] organs, indicated that a number of enterprises of the USSR Ministry of Procurement are not meeting standard requirements. Specifications for mixed feed are not being maintained, resulting in a reduction of nutritive properties of the product, retardation of livestock growth and development, and reduced productivity.

The highest percent of nongrade production is in enterprises of the RSFSR and Turkmen procurement ministries. More than 20 percent of mixed feed having the same or various deviations from the standard is produced in Tadzhikistan, Georgia, Latvia and Kazakhstan.

The reasons for such a situation are basically the same for all enterprises. First of all there is the gross violation of mixed feed production technology. Metrological services and OTK [technical control sections] are not operating satisfactorily; intake, operational and inspection control is not imposed.

In the course of inspection, territorial organs of the State Committee for Standards rejected production supply more than 200 times, and economic sanctions of more than R5 million were imposed on 139 enterprises. A special inspection procedure of GOSNADZOR was introduced in the Orlov grain products enterprise group, the Tomsk mixed feed plant, and the Tekstil grain-receiving enterprise of the RSFSR Ministry of Procurement. Inspection data of the Khaprovsk and Tomsk mixed feed plants, the Donbrinsk elevator and Tomsk grain-receiving enterprise group were passed on to investigatory organs.

In committee meetings it was noted that measures for the elimination of shortcomings taken by the USSR Ministry of Procurement, the USSR Ministry of the Meat and Dairy Industry, the USSR Ministry of the Food Industry, the USSR State Committee for Forestry, the Main Administration of the Microbiological Industry, whose enterprises produce mixed feed and raw materials for them, still are not providing the needed results.

It is necessary in the shortest possible time to increase the responsibility of technical control laboratories and OTK over the output of mixed feed fully in line with the requirement of technical-norm documents, to make the suppliers strictly responsible for substandard raw materials, and to strengthen departmental control and metrological service.

The conference decided to repeat inspections in enterprises in the fourth quality of this year.

CSO: 1824/132

LIVESTOCK

UDC 636.001.5

PROGRESS, TASKS OF LIVESTOCK BREEDING RESEARCH DISCUSSED

Moscow ZHIVOTNOVODSTVO in Russian No 9, Sep 84 pp 2-4

[Article by N.I. Strekozov, candidate of agricultural sciences, director of the All-Union Scientific Research Institute of Animal Husbandry: "Results and Prospects"]

[Text] The All-Union Scientific Research Institute of Animal Husbandry has been designated by a decree of the USSR State Committee for Science and Technology and by a special order of the USSR Ministry of Agriculture as the head technological institute and pedigree breeding center for the Simmenthal and Brown [Swiss] breeds of cattle and the Large White breed of hogs. In accordance with this status the following main directions of scientific research work have been defined:

the development and improvement of technology for the production of milk, beef, pork and products from sheep farming for meat and wool on an industrial basis;

the improvement of existing breeds, pedigree groups, breeding types and lines of cattle, hogs and sheep, and the development of new ones;

the development of improved technologies for preparing feeds, recipes for balanced rations, admixtures and whole milk substitutes, as well as a system for providing livestock with a full-value diet;

development of the genetic basis for breeding work in animal husbandry and the improvement of methods of reproduction and artificial insemination of livestock, using deepfrozen semen from the sires and embryo transplants.

The institute structure itself, the subject plan for the scientific research and its orientation provide for the comprehensive study of the problems assigned to it for elaboration.

Each of the technology sections for the production of milk, beef and pork includes specialists in breeding, feeding, zoological hygiene and maintenance, economics and organization of production, as well as workers in other fields,

who are joined together administratively into laboratories or groups. This permits those in charge of the sections to coordinate and direct the work of the subdivisions.

As its experimental base the institute has three experimental farms in Podolskiy Rayon: Shchapovo, with an experimental milk complex for 2,000 cows; Klenovo-Chegodayevo, a hog reproduction farm, which produces up to 30,000 piglets, including hybrids, annually for industrial fattening on specialized farms, and Dubrovitsy, a pedigree farm for breeding Holstein cattle with a milk yield of 5500 kilograms per cow, with 186 head, including 79 cows, per 100 hectares of farm land.

The institute also has two branches--at Tambov and Smolensk--the Ukrainian division at Ternopol and 12 support points on base farms.

The main studies performed for perfecting the milk production technology were concentrated at the Shchapovo and Naro-Osanovskiy dairy complexes in Moscow Oblast and at the Kostromskoy complex in Kostroma Oblast which were built according to plans developed on the basis of bilateral collaboration between the USSR and the GDR.

The technology used at these complexes is based on the untethered maintenance of the animals in stalls, with the liquid manure runoff used for irrigating the land.

In the process of testing and operating the complexes certain deficiencies were detected in the technology used there.

Among other things, it was determined that the feed lines were poorly adapted for distributing hay and root feeds. Round-the-clock milking and feeding of the cows disturbs the animals' natural schedule of activity and rest. It also makes the work of servicing personnel considerably more difficult and reduces the quality of the milk produced with unpastured maintenance of the cows.

The deficiencies revealed raised the question of reconstructing the Shchapovo complex. The reconstruction plan has been worked out and approved, and it now being implemented.

Other steps were taken as well, which made it possible to significantly increase milk yields.

Institute scientists together with scientists of other institutes (including Rosgiprosel'stoy [Republic State Planning Institute for the Planning of Agricultural Construction]) have in recent years developed a plan for a breeding farm for 400 cows maintained on tethers and with a complete cycle of breeding and replacement calf production, based on the studies conducted and on a summarization of progressive experience. The technology involved in the plan provides for obtaining 5,500 kilograms of milk from a cow.

Plan proposals have also been worked out for a dairy farm with a technology which saves energy and resources. It is planned to maintain the cows untethered on the farm with free access to course feed and silage (haylage) in feed lots

and with standardized feeding of the animals with moist feed mixtures consisting of root crops, concentrates, mineral additives and other feeds in a milking and feeding room. Capital outlays for construction and operating costs are estimated to be 15-20 percent below the construction and operating costs of existing farms with the cows maintained on tethers.

The institute has developed a system of maintaining heifers and non-calving cows in light-weight structures with feed lots. The cost of construction does not exceed 500 rubles per animal, compared with 800-900 rubles in conventional buildings, and the milk yield from cows raised in these facilities which have calved for the first time, with normal feeding conditions, is 3500 kilograms of milk per lactation.

In the breeding of dairy and dairy and meat breeds of cattle studies are being performed to develop a new type of Simmenthal cattle by crossing the cows with bulls of the red-spotted Holstein-Frisian breed. It is planned to have more than 5,000 hybrid females, including 1,000 cows, on 13 base farms by the end of 1983. Milk yields for the hybrid cows exceed those of their Simmenthal counterparts by 600-800 kilograms.

Purposeful work is being performed to develop new types and lines in the Holstein, Yellow-Spotted, and Brown [Swiss] breeds with purebred reproduction.

The development of three new lines in the Sychevskaya breed--the Anisa, Levanta and Likera--was completed in 1983. Output for cows in these lines is 4,950-5,200 kilograms of milk with a butterfat content of 3.79-3.88 percent. These lines have become widespread on farms in Smolensk Oblast.

Several highly productive breeding herds of Holstein and Brown [Swiss] cattle have been created. The milk yield is 5,000-6,500 kilograms per year.

A program for improving the genetic qualities of bulls has been worked out in cooperation with specialists of the Moscow State Pedigree Stock Breeding Association and is being implemented. It involves developing and selecting the dams of future bulls, mating them by order with the herd-improvement bulls, the raising of replacement bulls for specific purpose at breeding farms and the oblast (elevere), the testing and selection of purebred bulls based on the productivity of their daughters, the rapid build-up of a supply of semen from bulls tested for quality of offspring, and the testing and evaluation of the hereditary qualities of the bulls for the entire set of economically useful characteristics.

The introduction of this program in the oblast is already producing positive results. On a number of breeding farms, where up to 60 percent of the dams are out of high-grade bulls, milk yields per cow are increasing by an average of 60-80 kilograms.

Scientific research work for improving the technology for producing beef on an industrial basis is being carried out in two directions: the assessment of experimental complexes and the development of planned proposals for the veterinary science aspect of technologies for the construction of new generations of complexes.

Testing of the Vladimirskiy Beef Production Complex was completed last year. It was built under a plan for scientific and technical collaboration between the USSR and the GDR.

The main technological elements of production have been assessed: organization of the process of providing the complex with young animals, the system for feeding and maintaining the animals, the development dynamics of the young animals and indicators for the meat yield of the animals at the end of the fattening process, and other elements in the technological cycle. An economic evaluation of the raising and fattening process for individual periods and for the entire production cycle has also been made.

The general conclusion has been drawn that it is not practical to continue building such complexes, although individual elements might be used in the standard designs for new complexes.

The technology for raising and fattening cattle in complexes handling 2,500 and 5,000 head per year was developed in 1983. It takes into account the results from the testing of industrial complexes. It has been used for adjusting the existing plan, and the Gipronisel'khos [All-Union Planning and Scientific Research Institute for the Planning of Standard and Experimental Agricultural Production Centers and Establishments for Storing and Processing of Grain] has developed a new standard plan. It calls for performing the entire production cycle, including the raising of calves and the fattening of the young animals, with a reduction in the consumption of concentrated feed from 67 to 50 percent. The entire production cycle is calculated to take 460 days and is broken down into 3 periods. Feed outlays will be 670 feed units per quintal of growth, labor outlays 3.3 hours. The young animals will be sold at a weight of 410 kilograms.

The work carried out with respect to the breeding part of the technological process for producing high-quality beef is focused on improving the breed and productive qualities of the meat breeds--the Kalmyk, Herford and Charolais breeds--and on the development of a new purebred group and types in beef-cattle raising.

The development of two new breeding lines of Kalmyk cattle (Leleshko and Blok) has been completed at the Zimovniki Stud Farm in Rostov Oblast. Animals in these lines surpass their counterparts in live weight by 20 percent, and feed outlays per unit of growth are 10 percent lower. Sires from these lines are used extensively in many herds of Kalmyk cattle.

Work has been started to develop a new type of Kalmyk animal with the introduction of Limousin blood.

Studies for improving the Charolais breed by reducing the number of difficult calvings have been expanded significantly. The methods worked out have made it possible to reduce the number of difficult calvings from 70-80 to 45-60 percent in the past 3 years on the Kumskey Breeding Sovkhoz in Stavropol Kray and on Vbered Sovkhoz in Ryazan Oblast.

Work is continuing to develop a polled type of Charolais animal. The number of animals selected for reproduction amounted to around 500 head in 1983.

Work is being carried out on the Moskovskiy Sovkhoz in Kustanay Oblast under the supervision of VASKhNIL Academician N.F. Rostovtsev to develop a new type of beef cattle for areas of Northern Kazakhstan by crossing animals of the Kazakh white-faced, Charolais and Aberdeen-Angus breeds. Animals of this type have large weight and a good milk-producing capacity. Hybrid steers fattened in a pen grow 15 percent more rapidly than Kazakh white-faced animals, produce a 10 percent greater return for the feed and reach a live weight of 520 kilograms by the end of the fattening process.

Scientific research work to improve the industrial technology for pork production is underway at hog raising complexes with varying capacities, including such industrial enterprises as the Povolzhskiy Complex in Kuybyshev Oblast and the Complex imeni 50-letiya SSSR in Moscow Oblast.

Data from the production tests, the results of experiments and a summarization of numerous data describing the performance of complexes with various capacities show that along with the construction of large pork production enterprises using state balanced rations, inter-farm and intra-farm complexes with capacities of 24,000, 12,000 head and less, using locally produced feeds and food byproducts, need to be further developed during the 11th and 12th five-year periods.

Institute scientists and associates at the Tambov Branch have used the Rasskazovskiy Inter-Farm Enterprise in Tambov Oblast to develop a pork production technology for inter-farm complexes with a complete production cycle turning out 18,000-24,000 hogs per year.

Methods have been developed for increasing the intensity with which sows and boars are used in the complexes for artificial insemination, as well as methods of raising replacement pigs to be used as breeding animals, and other questions aimed at improving reproduction.

Scientific sheep raisers of the All-Union Scientific Research Institute of Livestock Breeding are continuing to work on enlarging the breeding zone and increasing the numbers of the Kazakh intra-breed type of Tsigeian sheep and the Surkhan-Darya, Southern Uzbekistan, Gagarin and Saykhan breeding types of karakul sheep with red (sur), gray, white and pink coloration. The farms realize around 8 million rubles in additional profits annually from the sale of skins of these colors. Work has been organized to develop a new multiparous breed of sheep for meat and wool, using sires of the Finnish Landrace breed.

In recent years the institute has developed its research in embryo transplants as a new direction in livestock breeding.

Surgical and nonsurgical methods for flushing out and implanting the embryos have been mastered to perfection, as has the method of preserving them in a frozen state. More than 170 calves have now been produced. A transplant center has been set up at the institute. It has begun the work of training the personnel and introducing this method in the nation's animal husbandry practices on an extensive basis.

Research is underway to improve feeding standards, to develop new recipes for balanced rations, admixtures and whole milk substitutes, to improve the technology used for preparing the feed and the feeding techniques, and to find new biologically active substances and growth stimulators. The institute was awarded the 1984 Prize of the USSR Council of Ministers for its work in obtaining and using microbial carotene in animal husbandry.

Special attention has been given to reducing the amount of grain in the rations for the animals and replacing it with other, more abundant and accessible ingredients as applicable to the specific, zonal feed production characteristics.

The development of detailed standards for feeding cattle, hogs and sheep was completed in 1983. The use of the standards in production is making it possible to take the animals' needs for energy and specific nutrients into fuller account, to make the rations more complete, and to increase livestock productivity and use feeds more effectively on this basis.

Extensive research is underway to develop new technologies for preserving feeds and to improve existing technologies for purposes of increasing the intensiveness and the preservation of the feed. Several preparations have been studied for the chemical preservation of feeds, and the most promising of this will be suggested for use in production.

The institute's scientific aktiv has several new recipes for balanced rations, admixtures, protein-mineral-vitamin additives, which have demonstrated good effectiveness in production tests performed with animals. These include a lysine admixture for fattening hogs with corn- and-cereal mixes. In 1981, for example, 180,000 tons of grain mixes were enriched with this admixture for fattening 450,000 hogs. A total of 65,000 tons of grain worth 6-6.5 million rubles was saved by increasing the nutritional value of the enriched mixture.

Around 1.5 million tons of grain could be saved by satisfying the need for this admixture in the nation's hog raising industry.

The genetic certification of animals for inherited blood types has been introduced on many of the nation's breeding farms. An automated system for processing veterinary science data has been introduced on farms in Moscow Oblast.

The new feedlot-type (zavodskiy) meat hog (KM-1) are widespread on 38 farms in Kemerovo Oblast, the Kazakh SSR and Krasnoyarsk Kray, and Tsigan sheep of the new Kazakh type are now being raised on 70 farms in Aktyubinsk Oblast. The production of colored karakul skins of the newly obtained colors is increasing by the year. This work was awarded the 1982 State Prize of the USSR.

Using recipes developed by the All-Union Scientific Research Institute of Livestock Breeding, the balanced rations industry and enterprises of the Ministry of Meat and Dairy Industry are producing more than 2 million tons of balanced rations and admixtures, 220,000 tons of dry whole milk replacements and 650,000 tons of liquid replacements each year.

The institute devotes special attention to the farms of Moscow Oblast.

In view of the importance of purposefully improving the dairy animals in the oblast, scientists of the All-Union Scientific Research Institute of Livestock Breeding have taken an active part in the work of putting together a plan for performing cattle breeding work and using semen from highly valuable sires of the Holstein-Frisian breed.

The institute laboratory determines the amount of fat and protein in the milk of 14,000 cows each year. Workers with the All-Union Scientific Research Institute of Livestock Breeding are constantly helping the farms in eight rayons in the oblast with the improvement of herd reproduction, the raising of young animals and the organization of the feeding process.

There are also some difficulties with the adoption of scientific achievements in production. We mentioned the effectiveness of using the lysine admixture for fattening hogs, for example. Production volumes are still not meeting animal husbandry's needs, however. The effort to increase production of the admixture is being held up by a shortage of the ingredients used in it, particularly the lysine itself.

The introduction of scientific developments in production by agricultural agencies is not organized or regulated with adequate precision. Many farms have not created the proper materials and equipment base for the successful introduction of scientific developments in production, and the recommended proposals are poorly advertised and publicized.

These matters must be resolved on a comprehensive basis, with the participation of all the ministries and departments concerned.

I would like to say in conclusion that the achievements of the institute collective have repeatedly received good ratings at numerous exhibitions, including international exhibitions. The institute received the Honorary Diploma at the "Zemlya-kormilitsa-82" exhibition in Czechoslovakia for its embryo transplant work.

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LIVESTOCK

BELORUSSIAN LIVESTOCK WORKER OBLIGATIONS SET FORTH

Minsk SEL'SKAYA GAZETA in Russian 6 Dec 84 p 1

Article: "Socialist Obligations of Belorussian SSR APK Workers"

Excerpts In 1984, as a result of selfless work by farm and field workers, assistance furnished by municipal and industrial center workers and pupils and students and purposeful work performed by party, soviet and administrative organs, the productivity of the republic's grain crops was 25.5 quintals, potatoes -- 180, sugar beets -- 254 and vegetables -- 184 quintals per hectare. A fine harvest of forage and other crops was obtained. An average of 17.2 quintals of feed units was procured in the public sector for the winter indoor maintenance period. This was 16 percent more than the figure for last year's wintering period.

Progressive technologies are being introduced into animal husbandry for the intensive raising and fattening of livestock. Collective contracts are now being employed by 3,400 brigades detachments and teams. The professional knowledge of the livestock breeders has improved.

All of this is making it possible to increase constantly the production of goods. During the January - October period of 1984, the gross milk yield increased by 5 percent compared to the same period for 1983 and livestock and poultry sales increased by 10 percent. An average of 101 more kilograms of milk was obtained per cow than was obtained last year. Compared to last year, the average weight of a head of cattle sold to the state increased by 31 kilograms and amounted to 393 kilograms. Increases also took place in the weight gains of cattle and hogs during raising and fattening. The numbers of livestock increased. The annual plan for milk procurements was fulfilled by the 67th anniversary of the Great October and the fulfillment of the plans for selling meat, eggs and wool is nearing completion.

In response to the appeal by the CPSU Central Committee to ensure the organized carrying out of the livestock wintering period, the workers attached to the republic's agroindustrial complex, having joined in the all-union socialist competition for increasing the production and procurements of animal husbandry products during the winter indoor maintenance period, undertook raised socialist obligations. Compared to last year's wintering period, the plans call

for the production of livestock and poultry for meat purposes to be increased by 50,000 tons or by 6 percent and for 875,000 tons of meat to be obtained, including in Brest Oblast -- 154,000 tons, Vitebsk Oblast -- 123,000, Gomel Oblast -- 147,000, Grodno -- 163,000, Minsk -- 180,000 and in Mogilev Oblast -- 108,000 tons.

In responding to the appeal by the party -- to manage better, to utilize resources more efficiently and to produce more results -- the livestock breeders in Minsk Oblast plan to increase their meat production by 8 percent, Bobruyskiy, Lyakhovichskiy and Rogachevskiy rayons, the Sovetskaya Belorussiya Kolkhoz in Kamenetskiy Rayon and many other collectives -- by 15 percent. This will enable them to complete the meat procurement task set forth in the Food Program for 1985.

Taking advantage of the experience and practice of the better livestock breeders, who obtain high daily weight gains during livestock raising and fattening operations, the plans call for the average delivery weight for a head of cattle to be raised by 18-20 kilograms during the wintering period. The livestock breeders in Brest Oblast have undertaken the task of raising the weight of the cattle to 410 and in Grodno Oblast -- to 420 kilograms. A considerable contribution will be made to meat production through the intensification of swine husbandry and poultry raising operations.

In the interest of increasing livestock procurements, use will be made of the opportunities for fattening them on the private plots of citizens and on the subsidiary farms of enterprises and organizations. No less than 700,000 young pigs will be sold towards this end. The farms of Belptitseprom are satisfying completely the requirements of the private plots of citizens for young poultry stock.

Compared to last year's wintering period, the plans call for the gross milk yield to be increased by 170,000 tons, or by 5.7 percent, and for 3,120,000 tons of milk to be obtained. The average yield per cow will increase by 74 kilograms. The livestock breeders in Brest Oblast intend to achieve a milk production of 500,000 tons and an average milk yield per cow during the winter indoor maintenance period of 1,503 kilograms, Gomel Oblast -- 560,000 and 1,652, Grodno Oblast -- 432,000 and 1,950, Minsk Oblast -- 726,000 and 1,700, Mogilev Oblast -- 422,000 tons and 1,500 kilograms. These figures are considerably greater than those for last year's wintering period.

This will make it possible to sell to the state 915,000 tons of livestock and poultry, 3,105,000 tons of milk and 1,270,000,000 eggs, or more than last year's wintering period by 41,000 tons of livestock and poultry, 162,000 tons of milk and by 2 million eggs. Milk procurements during 1985 will exceed to a considerable degree the tasks set forth in the Food Program.

Within the branch, special attention will be given to raising the quality of the products being procured. The plans call for no less than 90 percent of the milk sold to the state to be of 1st grade quality and 80 percent of the young stock released from fattening regimes -- in a high state of nourishment. The plans call for a reduction in losses which occur during the production and sale

of milk and during its consumption for intra-farm needs and an increase in the use of whole milk substitutes for feeding to young stock. This will make it possible to raise the marketability of the milk to 85 percent. Direct contacts between the kolkhozes and sovkhoses with the processing enterprises of the meat and dairy industry will be strengthened and further developed. The plans call for the centralized shipping of livestock from a large portion of the kolkhozes and sovkhoses and milk -- from one half of the farms.

The livestock breeders and zooveterinary services are committed to improving the safeguarding of the calves, young pigs and lambs and the veterinary services for the farms and complexes and to reducing the losses in young stock by no less than 5 percent.

After having studied the experience of the Belgorod Oblast party organization in making more efficient use of the feed resources and reducing grain expenditures for forage purposes, experience which was approved by the CPSU Central Committee, the republic's farms vowed to organize the feeding of large volumes of prepared and enriched feed mixtures to the livestock.

This required the placing in operation of new feed preparation shops and the modernization of existing ones, an increase in the use of mineral, protein and vitamin additives, the preparation for the wintering period of 51,000 tons of coniferous meal and 116,000 tons of paste and the production of 31,000 tons of liquid whole milk substitute and more than 10,000 tons of salt and mineral briquettes. Use was made of 6,000 tons of urea and diammonium phosphate for enriching the rations with protein.

All of the grain forage is to be used only in processed form, including with the preliminary yeasting and malting of more than 300,000 tons. Straw in the amount of 2.6 million tons must be thermally treated using anhydrous ammonia and ammonia liquor.

The plans call for the complete gathering up and efficient use for feed purposes of food scraps obtained from enterprises of industry, trade and public catering and also waste food products obtained from the population. The expenditure of grain forage for the production of a unit of animal husbandry output will be reduced by 2 percent.

An all-round program for strengthening the feed base of animal husbandry in all aspects will be carried out in 1984-1985. In this regard, larger areas than has been the case in the past will be made available for pulse crops, clover, other perennial grasses of the intensive type, corn, fodder root crops and for secondary and post-harvest sowings, including cruciferae family sowings. On this basis, an increase will also take place in the production of feed protein.

Work must be continued in connection with introducing into operations on the livestock farms the flow line-departmental system for milk production and reproduction of the herd and the twin-cycle work regime. On each farm, a minimum of one production subunit will be converted over to work carried out on the basis of a collective contract. The introduction of cost accounting procedures will promote savings in the use of material and financial resources. Each

livestock breeder will be provided with a monthly standardized task for the production of goods in conformity with the resources allocated for this purpose.

The engineering-technical services must organize continuous and efficient work by the feed preparation shops, milking and refrigeration equipment and other mechanisms on the farms. Permanent brigades or teams are being created for this purpose at enterprises of Goskomsel'khoztekhnika and at kolkhozes, sovkhoses and complexes.

The collectives of enterprises of the meat and dairy industry and procurement organizations and enterprises will ensure the timely processing of meat, milk and other livestock products and the fulfillment and over-fulfillment of the plans for the production and delivery to agriculture of mixed feeds, feed additives and protein raw materials.

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LIVESTOCK

ESTONIAN MEAT, MILK PRODUCTION DATA REVIEWED

Tallinn SOVETSKAYA ESTONIYA in Russian 15 Nov 84 p 1

/Article: "Conscientious Labor -- A Guarantee for Success"

/Text/ October was the period for converting over to indoor maintenance for the herd. The plans for feeding the animals during the wintering period were developed at all of the kolkhozes and sovkhoses prior to 1 October. In addition to the feed volume and quality, a determination was also made as to the number of animals remaining for the wintering campaign and the tasks concerned with preparing the feed for feeding to the animals and completing the repair work on the farms were defined more precisely.

Despite the fact that this year's quantity of internally produced feed is somewhat greater than the figure for last year, nevertheless the situation on many farms in Pylvaskiy, Vyruskiy and Rakvereskiy rayons is not very good. At almost one half of the Vyruskiy and Pylvaskiy farms, the amount of internally produced feed procured was less than 1,000 feed units (and the amount should have been 1,300-1,400 feed units). The supply available at the Munamyae Sovkhoz is only 594 feed units, at the Taevaskoya Kolkhoz in Pylvaskiy Rayon -- 712 and at the Syprus Kolkhoz in Vyruskiy Rayon -- 831 feed units. A fine supply of internally produced feed is available for the livestock at the Ranna Sovkhoz (2,455 feed units) and more than 2,000 feed units have also been placed in storage at the Vambola Kolkhoz in Vilyandiskiy Rayon, the Yyud Kolkhoz in Khaapsaluskiy Rayon and at the Support-Demonstration Sovkhoz-Technical School imeni Yu.A. Gagarin.

It would be wrong to blame the scanty winter supplies at many farms on poor weather condition. The weather was the same in almost all of the areas. However, the organization of the work and the sense of responsibility for assigned tasks were not the same in all areas. The failure to display adequate concern for the meadow and pasture lands also had an effect.

During the October Plenum of the CPSU Central Committee, Comrade K.U. Chernenko emphasized that one of our most valuable resources is that of land and that this resource must be handled in a very thoughtful manner. Only when this is done will the value of the land be returned one hundredfold. Very serious conclusions must be drawn from the mistakes made during last year's feed procurement operations.

**Meat Procurements and Average Daily Weight Increases in Livestock
During Fattening (January-October 1984)**

Р а й о н ы (4)	Закуплено скота и птицы во всех ка- тегориях хозяйств — в % к (1)		Средний вес закуп- ленного скота — кг (2)		Среднесуточ- ный привес скота на от- корме в кол- хозах и сов- хозах — грам- мов (3)	
	годовому плану (5)	соответ- ствующему периоду 1983 г. (6)	крупного рогатого скота (7)	свиней (8)	крупного рогатого скота (7)	свиней (8)
(9) Раплаский	98	122	437	105	609	464
(10) Вырусский	95	118	417	122	550	438
(11) Харьюский	94	114	438	104	642	471
(12) Хаапсалуский	94	116	434	104	608	477
(13) Йыгеваский	94	116	430	107	576	442
(14) Пайдеский	94	112	457	106	609	476
(15) Валгаский	92	108	425	106	513	437
(16) Раквереский	92	108	460	113	586	472
(17) Пылваский	91	112	418	107	636	422
(18) Хийумааский	91	112	450	107	676	489
(19) Кингисеппский	91	117	442	104	691	503
(20) Пярнуский	89	111	433	102	634	514
(21) Тартуский	88	111	423	110	588	444
(22) Кохтла-Ярвеский	88	111	430	110	660	472
(23) Вильяндиский	87	106	430	108	604	483

Key:

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|----------------------------------------------------------------------------------------------------|-----------------------|
| 1. Livestock and poultry purchased at all categories of farms -- in percent of | 10. Vyruskiy |
| 2. Average weight of livestock purchased -- kg | 11. Kharyuskiy |
| 3. Average daily weight increase in livestock during fattening at kolkhozes and sovkhoses -- grams | 12. Khaapsaluskiy |
| 4. Rayons | 13. Yygevaskiy |
| 5. Of annual plan | 14. Paydeskiy |
| 6. Of corresponding period for 1983 | 15. Valgaskiy |
| 7. Cattle | 16. Rakvereskiy |
| 8. Hogs | 17. Pylvaskiy |
| 9. Raplaskiy | 18. Khiyumaaskiy |
| | 19. Kingiseppskiy |
| | 20. Pyarnuskiy |
| | 21. Tartuskiy |
| | 22. Kokhtla-Yarveskiy |
| | 23. Vilyandiskiy |

If the wintering campaign is to be carried out in a normal manner, the feed must be utilized as efficiently as possible. Since the cattle ration contains a great amount of silage and less hay, special attention must be given to preparation of the straw. It is the responsibility of RAPO's /rayon agroindustrial associations/ to display initiative and enterprise and to provide the farms with specific assistance in the preparation of straw for feeding to the animals.

Today the possibility exists of allocating more potatoes for the herd. But in some areas unwashed tubers are being fed to the animals. This is unacceptable. Each farm must organize the washing of potatoes.

By 1 November, the republic's farms had sold 12 percent more livestock and poultry to the state, 6 percent more milk and 0.5 percent more eggs than were

sold during this same period last year. During the 10 month period, the annual task for the sale of livestock was fulfilled by 92 percent, milk -- 90 and that for the sale of eggs -- by 86 percent.

By 1 November, the milk yield per cow amounted to 3,310 kilograms -- 121 more kilograms than the amount for the same 10 months of last year. The productivity of cows in Rakvereskiy Rayon reached 3,619 and in Paydeskiy Rayon -- 3,544 kilograms of milk. In October the average productivity of the dairy herd at kolkhozes and sovkhoses was 284 kilograms, or 20 kilograms more than in October 1983. Moreover, the milk yields have increased in all of the rayons. The greatest increase was achieved by livestock breeders on farms in Kharyuskiy and Valgaskiy rayons (33-35 kilograms).

But the overall fine indicators conceal a number of shortcomings. Milk production even decreased at the Valga and Sadukyula sovkhoses, at the Emmaste Kolkhoz in Khiumaaskiy Rayon and also on some other farms. Yes and what more can be expected when there is very poor organization in the mating of the animals and when insufficient attention is being given to timely feed deliveries or to the feeding of the animals generally. During the last 10 days in October, the productivity of cows at the Sadukyula Sovkhoz was 1.5 kilograms lower per 24 hours than the figure for last year. Yes and during the summer period the milk production per cow at this farm was 162 kilograms less than 1 year ago. The pastures here are in poor condition and, just as in previous years, there is a shortage of transitional feed.

As a result of similar shortcomings, reductions have been noted in the indicators for a number of other farms. Those kolkhozes and sovkhoses which have relatively low production levels require specific assistance from the RAPO's, which have many specialists at their disposal. And concern must be displayed for these farms, at least until such time as their problems have been overcome.

This year, meat production was carried out successfully in all of the rayons. In particular, mention should be made of the results achieved in Khaapsaluskiy, Kharyuskiy, Yygevaskiy, Kingiseppskiy and Raplaskiy rayons. Here the volume of livestock and poultry procurements increased by 14-22 percent. The weight increases in fattened animals and their sales weights were good. For example, cattle were delivered weighing an average of 435 kilograms (from Rakvereskiy Rayon -- 460, from Paydeskiy Rayon -- 457) and hogs were delivered weighing 108 kilograms. In order to carry out next year's meat production tasks, it will be necessary to raise the average sales weight for cattle by 15 kilograms. The potential is available for doing this. Indeed, many farms in Pylvaskiy, Tartuskiy and Vyruskiy rayons have sold cattle weighing less than 400 kilograms.

The differences in the results obtained from the fattening of hogs have increased. Although hogs undergoing fattening regimes at the kolkhozes Vyayke-Maar'ya in Rakvereskiy Rayon, Saverna in Pylvaskiy and Vykhandu in Vyruskiy rayons are adding weight at the rate of 500-600 grams or more daily, at the Veriora Sovkhoz -- barely 200 grams. Such hog raising operations cannot be justified. The causes -- a weak feed base and poor organization. Unfortunately, such examples can be found in each rayon. Such situations must not be tolerated.

Milk Purchases and Cow Productivity
(January-October 1984)

Районы (1)	Закуплено молока во всех категориях хозяйств -- в % к (2)		Средний удой моло- ка от одной коровы в колхозах и сов- хозах -- кг (5)	± кг в со- ответст- ствии пе- риоду 1983 г. (6)
	годовому плану (3)	соответ- ствующему периоду 1983 г. (4)		
(7) Валгаский	94	111	2952	189
(8) Хаапсалуский	94	106	3165	167
(9) Харьюский	92	109	3390	239
(10) Кингисептский	92	106	3039	185
(11) Вырусский	92	107	3206	160
(12) Кохтла-Ярвеский	91	108	3196	147
(13) Раквереский	91	106	3619	149
(14) Пярнуский	90	105	3440	95
(15) Пайдеский	90	106	3544	63
(16) Йыгеваский	90	106	3235	33
(17) Пылваский	90	105	3209	58
(18) Тартуский	90	106	3205	166
(19) Раплаский	90	106	3321	101
(20) Вильяндиский	87	102	3303	32
(21) Хийумааский	83	96	2856	-104

Key:

- | | |
|----------------------------------------------------------------|-----------------------|
| 1. Rayons | 10. Jubguseosjut |
| 2. Milk purchased at all categories of farms -- in % of | 11. Vyruskiy |
| 3. Annual plan | 12. Kokhtla-Yarveskiy |
| 4. Corresponding period for 1983 | 13. Rakvereskiy |
| 5. Average milk yield per cow at kolkhozes and sovkhoses -- kg | 14. Pyarnuskiy |
| 6. - kg for corresponding period for 1983 | 15. Paydeskiy |
| 7. Valgaskiy | 16. Yygevaskiy |
| 8. Khaapsaluskiy | 17. Pylvaskiy |
| 9. Kharyuskiy | 18. Tartuskiy |
| | 19. Raplaskiy |
| | 20. Vilyandiskiy |
| | 21. Khiyumaaskiy |

Improvements are required in the reproduction of the herd. A number of farms have unjustifiably reduced the number of their animals and at the present time the number of cattle in the republic is , percent less and that for hogs -- even 3 percent less than the figures for last year. The tense tasks established for next year require that there be a sufficient number of animals on the farms by the end of the year. At the present time, additional young sows should be selected on the farms (especially in Raplaskiy and Tartuskiy rayons) in a manner so as to ensure that a maximum number of young pigs will be obtained in March-April and their fattening completed during the second half of 1985. Fewer calves are now being obtained on farms in Kharyuskiy, Khiyumaaskiy, Kingiseppskiy and Kokhtla-Yarveskiy rayons. ESSR Agroprom and the RAPO's must display greater exactingness and consistency in solving the problems concerned with reproduction of the herd.

LIVESTOCK

MEAT, DAIRY CONFERENCE NOTES INDUSTRY PROGRESS, PROBLEMS

LD062333 Moscow Domestic Service in Russian 1630 GMT 6 Dec 84

[From 'Land and People', program]

[Text] An all-union conference organized by the country's Ministry of the Meat and Dairy Industry ended today at the USSR Main Committee for Exhibition of the National Economy. Participants summarized and analyzed the work experience of the industry's associations and enterprises in fulfilling plans for purchases of livestock and milk. It was noted that during the years 1983-84 the industry produced above-plan produce to the value of more than R 3 billion. It was proposed to introduce everywhere the experience of the agroindustrial complex in Novosibirsk Oblast, where processing enterprises organized milk reception directly at farms. This is advantageous to both procurers and livestock farmers. The delivery of milk is speeding up significantly and this means that it keeps better, and as a result, the quality of milk products increases. The problem of milk and meat purchases from private subsidiary plots was also raised. The conference mapped out measures for the further improvement of relations between the industry and the country's agroindustrial complex.

CSO: 1824/128

REGIONAL DEVELOPMENT

PARTY OFFICIAL ON FOOD PROGRAM IMPLEMENTATION IN UKRAINE

Kiev KOMMUNIST UKRAINY in Russian No 9, Sep 84 pp 17-27

/Article by I.A. Mozgovoy, member of the Politburo and secretary to the Central Committee of the Communist Party of the Ukraine: "Implementation of the Food Program -- An Important Task of the Party and People"/

/Excerpt/ From the beginning of 1966 through 1983, the fixed productive capital of kolkhozes and sovkhoses throughout the republic increased by a factor of 4.3 and the availability of power per 100 hectares of sowing area -- by a factor of 3.3. Mineral fertilizer deliveries increased by a factor of 3.7, the areas of irrigated land -- by 4 and drained land -- by twofold. A considerable increase took place in the logistical support for agricultural production.

Radical changes took place in the character of agricultural labor, which to a large degree is being transformed into a type of industrial labor (it is sufficient to state that today the power-worker ratio for one agricultural worker is 21.5 horsepower compared to only 4.7 in 1965). Substantial changes have taken place in the cadres of agricultural workers. Over the past 10 years, the number of machine operators has increased by 16 percent and certified specialists in charge of departments, brigades and farms -- by twofold. Compared to 1970 when only one half of the farm leaders possessed higher educations, today the figure is 89 percent. The number of communists engaged in agricultural production has increased by 16 percent.

Housing and social-cultural construction in the rural areas have undergone further development and living conditions for the agricultural workers have improved. Compared to 1965, the average monthly wage for manual and sovkhos workers has increased twofold and the wages for kolkhoz members -- by a factor of 2.3. The level of their pension payments and social insurance has been raised and increases have taken place in the payments and benefits issued from the general funds.

The implementation of the measures developed by the party and the carrying out of its agrarian policies have produced noticeable results and brought about a considerable increase in the return being realized from the fields and farms. During the last five-year plan, for example, the average annual gross volume of agricultural production for the country as a whole was greater by a factor of 1.5 than the figure for the five-year period which preceded the March (1965) Plenum of the CPSU Central Committee.

This growth was felt fully by each Soviet individual. With an increase in the country's population over the past three five-year plans of 35 million, the consumption of meat and meat products increased by 41 percent and eggs -- by a factor of 1.9. From the standpoint of calorific value, the consumption of products both in the republic and throughout the country is satisfying fully the requirements of man and on the whole is at the same level for the more economically developed countries of the world.

At the same time, despite the unquestionable achievements in developing the agrarian sector of the economy and in increasing the production of agricultural products, the food problem has still not been solved completely. As is known, on the one hand interruptions are taking place in a number of rayons today with regard to supplying the population with certain types of food products and, on the other -- the nutritional structure requires improvements, since we are still consuming more bread, potatoes and sugar than is called for in the recommended norms and lesser amounts of products of animal origin and also vegetables and fruit. Certainly, existing traditions play a role here as do also factors of another type.

First of all, even if we disregarded the extremely unfavorable weather conditions of a number of years (and during the past decade there were more bad years than good ones), then it would still be unrealistic to expect to achieve a rapid intensification in the volumes of agricultural production in the required assortment, given the existing logistical base of the kolkhozes and sovkhozes. Thus the decrees of the CPSU Central Committee and the USSR Council of Ministers, adopted in conformity with the tasks of the Food Program, called for the creation of the logistical base required and yet this, understandable, requires a definite amount of time.

Secondly, the changed tenor of life, according to the economists, has increased the number of "pure" consumers of food goods. An increase has taken place in the size of the municipal population, while at the same time decreases have been noted at many kolkhozes and sovkhozes and also in various rayons and even oblasts. If we take into account the rapid growth in the purchasing power of the people (over the past 20 years, the per capita monetary income in the republic has increased by a factor of 3.3) and the stable nature of the prices for bread, meat, milk, eggs and other food products, then one fact becomes clear: in order to satisfy completely the requirements and increasing needs of the workers for food products, the intensity of agricultural production and the rates for its development must be considerably higher than the existing ones. Moreover, improvements in the quality of the products must not be viewed as being of secondary importance. A stable acceleration in the rates of growth is possible only on the basis of improved labor productivity, the introduction into production operations on an extensive scale of scientific-technical achievements and the efficient use of all resources at the disposal of the APK /agroindustrial complex/. And this also cannot be accomplished immediately.

Thirdly, it is unfortunate that on a number of farms and even in entire rayons shortcomings are being noted in the management of agricultural production and in ensuring its interrelationships with other branches of the agroindustrial complex. Important decisions are being made in the absence of adequate scientific basis. The specifics of agriculture are such that even the smallest

mistake may require a minimum of 1 year to correct it and quite often several years are required. This is explained to a large degree by the instability of agricultural production and also by the reduction that has been noted recently in the rates for increasing output.

All of this has required the use of an all-round approach for the food problem. The measures defined in the program call for the elimination of disproportions in developing the agroindustrial complex and its chief element, overcoming the disparities between the requirements for agricultural products and the possibility of satisfying them and on this basis -- reaching new levels in improving the well-being of the Soviet people. The subordination of the overall final goal to the increasing production of high quality food products and delivering them to the consumer is clearly called for in the tasks set forth in the country's Food Program, in the food programs of the republics, krays, oblasts and rayons and also in the plans for the economic and social development of the kolkhozes and sovkhozes.

As is known, agriculture in our republic plays an important role in the formation of the country's food fund. It is sufficient to state that the UkSSR produces more than 20 percent of the grain, 25 percent of the potatoes and vegetables, 60 percent of the sugar beets, almost one half of the sunflowers and approximately one fourth of the all-union volume of meat and milk. In a report delivered before a meeting of the republic's party-economic aktiv on 25 May 1984, member of the Politburo of the CPSU Central Committee and 1st secretary to the Central Committee of the Communist Party of the Ukraine Comrade V.V. Shcherbitskiy emphasized that all of the above imposes a great responsibility upon the republic's party organization with regard to the implementation of the Food Program.

Taking this fact into consideration, the Central Committee of the Communist Party of the Ukraine and the republic's Council of Ministers developed specific measures for improving the production stability for grain and other agricultural products, strengthening the logistical base of the kolkhozes and sovkhozes, developing land reclamation and improving social-cultural construction in the rural areas. Approved by the CPSU Central Committee and also during a meeting of the republic's party-economic aktiv, these measures have become a spirited program of action for increasing the contribution by the UkSSR towards carrying out the country's Food Program. The carrying out of these measures is considered to be a task of state importance.

The measures call for high rates of development for the agrarian sector of the economy and certainly it will not be easy to achieve them. It will require a great amount of work and particularly efficient and harmonious work by all elements and all workers attached to the agroindustrial complex. Yes and not just these elements and workers alone. The republic's entire national economy is closely and organically united in a single whole, in which direct assistance for agriculture plays a role, including by means of patronage. Thus the carrying out of the planned measures and the task of making a worthy contribution towards solving the food problem can be achieved only on the basis of general efforts, effort on the part of each individual regardless of where he works or his type of work.

A realistic understanding by all of the workers of the unalterable fact that success in this national endeavor is dependent upon their personal contribution is doubly important, since the implementation of the Food Program is being carried out under conditions which are far from ideal and is hampered by a number of difficulties of an objective nature. For example, energy resources are becoming more expensive and agriculture, as it develops further, is consuming greater quantities of industrial products, energy and raw materials. Our land areas and water supplies are also no infinite but rather are limited. In a number of oblasts, the demographic situation and the balance in labor resources remain complicated. And finally, although the capital investments in agriculture will increase absolutely, their rates of growth naturally will not be as high as formerly.

Thus it follows that a further intensification in the production of agricultural products must be achieved mainly by raising the return from the production potential already created and ensuring the thrifty and efficient use of land, water, energy, technical, financial and other resources. In other words, the principal path to be followed for carrying out the planned measures -- intensification, the essence of which today, as emphasized during the all-union economic conference in Moscow, consists not so much of increasing the economic and technical potential but rather of making more complete use of it.

It is important to note that the consistent implementation of the measures outlined during the May (1982) Plenum of the CPSU Central Committee and the realization of the decrees adopted in this regard by the party's Central Committee and the USSR Council of Ministers have promoted the creation of favorable economic conditions for stable work by the kolkhozes and sovkhozes and for raising the efficiency of agricultural production.

This is borne out by the results achieved during 1983. For example, the profit of the republic's kolkhozes and sovkhozes, without taking into account the increase in procurement prices, amounted to 2.2 billion rubles. And when this increase is taken into account, it appears that the republic's kolkhozes, sovkhozes and inter-farm enterprises earned 4.8 billion rubles worth of net income, or three times more than in 1982. Production profitability amounted to 22.4 percent. Here the highest level was achieved by farms in Vinnitsa, the Crimean and Cherkassy oblasts. All of the kolkhozes in Donetsk, Poltava, Khmelnytskyi, Ternopol and Chernovtsy oblasts operated on a profitable basis.

Beyond any doubt, all of this can be evaluated as being only the initial steps. Today the economic conditions are such that it is possible not only to compensate for but even to cover completely the production expenses and to obtain considerable profit. Meanwhile, although the number of unprofitable farms has decreased by a factor of six, there are still a great many of them.

Life has shown again and again that eminent successes are being achieved in those areas where genuine concern is being displayed for the most efficient use of the available productive capital, each hectare of land, each cubic meter of water, each ton of fuel, each kilogram of fertilizer and each ruble of capital investment.

Let us take such a basic problem as that of obtaining stable yields in grain, forage and other crops. Quite often one hears: "Give us equipment and fertilizer -- and a good yield is ensured."

Certainly, the yields are affected by the level of support in terms of both equipment and fertilizer. However, analysis has shown that with agriculture being supplied with increasing amounts of logistical resources, the efficient utilization of land as the principal means of production in agriculture is of decisive importance. In those areas where this task is being solved in a skilful manner, even where there is a shortage of equipment, the results as a rule are high. The example of Volyn Oblast is rather instructive in this regard. Here the power-worker and capital-labor ratios are still lower than in a number of oblasts, but through the efficient use of land and the introduction of scientifically sound farming systems the agricultural workers are achieving good yields for all of their agricultural crops and they are fulfilling their plans for the production and sale to the state of the principal types of agricultural products. And conversely, we frequently encounter situations in which a high level of available resources fails to produce the desired results owing to a low culture of farming (crop rotation plans not mastered, the sowing structure not worked out, seed production neglected and fertilizer being applied "by eye").

The stability of farming is determined to a large degree by the manner in which reclaimed land is used. Many farms throughout the republic are presently obtaining high yields from irrigated areas and the Crimean Oblast on the whole is obtaining 3-4 times more output from such land than from non-irrigated areas and it has reached the planned yield levels for many crops. Nevertheless, the problem is still very acute. For example, a shortfall in output of roughly one third is being experienced annually from irrigated lands in Kirovograd, Odessa and Nikolayev oblasts.

What are the reasons for this situation? Any work requires efficient organization, accounting and control and if we are discussing the use of reclaimed lands, then strict technological discipline is also required. Unfortunately, many farm leaders, despite the fact that they are aware that land reclamation alone will not guarantee high yields, are still not displaying proper persistence or concern with regard to their irrigated and drained lands, the availability of water for them or providing them with the required amounts of organic or mineral fertilizer. In some areas the agricultural practices have still not been worked out, the required number of personnel have not been trained, especially irrigation workers and so forth. These then are some of the reasons for the failures.

Reclaimed lands constitute a real reserve for rapidly increasing the production of agricultural products. A priority task of the day is that of learning how to use the existing potential and how to raise the productivity of each hectare. It is particularly important in view of the fact that in conformity with the measures approved by the Politburo of the CPSU Central Committee, land reclamation construction in the republic is to be developed at a high tempo, with the area of irrigated land to be almost doubled by the year 2000. This land must be used in a manner such as to produce a maximum return -- this will ensure stable agricultural production, it will raise the efficiency of such production and it will make a worthy contribution towards fulfilling the Food Program.

Considerable reserves for further intensifying the production of farming products are to be found in expanding and improving the industrial and

intensive technologies for the cultivation of grain, sugar beets, vegetables and other crops. A considerable amount of work has already been carried out in this regard. Compared to 1980 when the industrial technology for cultivating corn was used on 300,000 hectares, this year -- on 1.8 million hectares. Moreover, the average increase in corn grain yield for the republic, compared to conventional sowing, was 10-11 quintals per hectare and in the Crimean and Kherson oblasts -- 22-24 quintals. In addition, this technology makes it possible to lower labor expenditures and production costs by a factor of 1.5.

An intensive technology for cultivating winter wheat has proven its worth; it is based upon the use of lodging resistant varieties and a special sowing method which makes it possible to carry out split applications of raised dosages of mineral fertilizer, herbicides and fungicides. The experience of a number of farms in Ivano-Frankovsk Oblast has shown that the introduction of this technology provides an increase in yield of from 4 to 7.5 quintals per hectare. Thus today's task consists of expanding the use of this technology on areas up to 1.5-2 million hectares, especially in zones of adequate moisture and in the steppe zone -- on fallow soil.

More than one half of the sugar beets and one third of the sunflowers are being grown using the industrial technology and this is making it possible to raise the yields for these crops while realizing at the same time a considerable reduction in the use of manual labor. An industrial technology for the cultivation of vegetable crops, one which makes it possible to mechanize to the maximum possible degree the labor-intensive processes involved in their cultivation and harvesting, is being introduced into operations on farms in Kherson, Donetsk, Voroshilovgrad, Kiev and other oblasts. In other words, a considerable amount of experience in the use of progressive technologies in farming is already available and the problem now consists of ensuring that it is introduced into operations on an extensive scale.

The same holds true for animal husbandry. For example, a three-stage technology for the production of beef on an industrial basis is being employed effectively in Cherkassy Oblast. Its first section -- reproduction farms for supplying young beef cattle stock; second section -- spetskhozes /specialized farms/ for developing them to a minimum weight of 350 kilograms; third section -- inter-farm enterprises for the final fattening of the cattle to 440-450 kilograms. This specialization has become a strong foundation for increasing the oblast's successes in connection with fulfilling and over-fulfilling the plans for selling animal husbandry products to the state.

Over the past few years, extensive use has been made in dairy cattle husbandry of a progressive flow line-departmental technology for milk production. The experience of many farms in Lvov, Chernovtsy, Ivano-Frankovsk, Vinnitsa, Volyn and Ternopol oblasts convincingly testifies to the fact that its introduction, combined with the creation of a strong feed base, is making it possible to achieve high final results. Strictly speaking, such experience in the intensification of agricultural production is available in each oblast and each rayon. A priority task of the party committees is that of generalizing and disseminating it and ensuring that it is introduced into operations in all areas.

Moreover, it should constantly be remembered that the specific nature of the modern technological processes being employed in industry and agriculture

requires further improvements in nature preservation work. Waste-free technologies and closed cycle water utilization systems must be introduced into operations in a more active manner. Special importance is attached to carrying out completely the measures planned for raising the fertility of soils and protecting them against water and wind erosion, secondary salinization, underflooding and contamination by industrial waste products. Today these are not just fond wishes but rather they are problems which require urgent solutions and without any excuses being offered.

It can be stated as follows -- the attitude towards the fertility of land and to land in general and the attitude towards protecting the environment define the cultural level of any individual and particularly a leader.

In concentrating attention on the problems concerned with the efficient use of land and raising the yields for all crops, the party committees and organizations must exercise firm control over the preservation of the products and ensuring that they are delivered to the consumer. Indeed, it must be confessed that even negligible losses in grain, especially corn, beets, potatoes, vegetables and fruit can cause considerable economic and moral damage.

For the purpose of achieving more complete utilization of the field and farm products during the 12th Five-Year Plan, investments in the construction of warehouses, storehouses, refrigerators and processing enterprises will be increased by a factor of 1.6. The plans mainly call for the completion of work concerned with having the livestock, poultry, milk, potatoes, vegetables and fruit accepted directly at the kolkhozes and sovkhoses. However, a great amount of work can and must be carried out at the present time and particularly in connection with eliminating losses during crop harvesting and storage operations.

At the same time, one aspect of the problem must not be overlooked -- raising the quality of the agricultural products. Certainly, a great amount of work has been and is being carried out in this area. Last year the kolkhozes and sovkhoses received considerable additional amounts in the form of bonuses added on to their prices for having sold high quality goods to the state. At the same time, in a number of oblasts and particularly in Nikolayev Oblast, the sale of strong and valuable wheats is not proceeding in a satisfactory manner this year. A considerable amount of low-grade milk is being received from kolkhozes and sovkhoses in Kiev, Sumy, Odessa and Voroshilovgrad oblasts and roughly one fifth of the cattle are being sold in a low nutritional state. This situation cannot be tolerated. The oblast and rayon party committees in the mentioned and also other oblasts must display responsibility and require the farm leaders and specialists to undertake effective measures aimed at correcting the situation. Indeed an increase in the quality of products constitutes a task that is not only of a production and economic nature, but also political. In this sense, concern must also be displayed for further developing the subsidiary farms of industrial enterprises and also for making more efficient use of the output from the private plots of kolkhoz members and sovkhos workers.

As is known, the most effective means for utilizing the existing scientific-production potential and the remote reserves of APK /agroindustrial complex/ branches are set forth in the republic, oblast and branch special purpose all-round programs. The Central Committee of the Communist Party of the

Ukraine and the UkSSR Council of Ministers have approved the republic's Agrokompleks and Sakhar programs and also the all-round plans for supplying agriculture with personnel, raising the fertility of the soil, developing feed production, achieving further intensification in dairy cattle husbandry, hog breeding, fish husbandry and others. In order to realize a proper return from these measures, there must be efficient labor organization and strict observance of the technological discipline. In carrying out this work, an important role will be played in the various areas by the use of the collective contract. Indeed, experience has convincingly shown that the best use is made of the available potential and the greatest results achieved when this form of labor organization is employed and when the personal interests of each worker are organically linked to the tasks of the kolkhoz or sovkhoz and, in the final analysis, to those of the state.

In 1983 there were more than 11,000 brigades and teams operating on the basis of collective contracts on farms throughout the republic compared to only 3,300 in 1982. This year an increase has taken place in the number of collectives working on a contract basis; this was promoted by the carrying out of republic, group and rayon seminars and the summarizing and dissemination of the experience of leading elements. However, work in this direction must be continued and improved and the goal must be established of doubling in the near future the number of brigades and teams growing corn for grain, sunflowers, sugar beets and potatoes on a collective contract basis and also those engaged in producing animal husbandry products.

In this regard, it should be emphasized once again that improvements in the organization and administration of agricultural production constitute an integral component part of the task concerned with raising the effectiveness of management and carrying out the Food Program. And in this work there can be no matters of "secondary concern." Here everything is of identical importance: this includes improvements in intra-farm accounting, the introduction of the collective contract, the dissemination of new wage forms and material and moral incentives for the workers in conformity with the new conditions.

At the present time, there are already many production subunits of kolkhozes and sovkhozes which are operating on the basis of intra-farm accounting principles. The departmental administrative structure is being employed on many farms and the check form of mutual accounts is being further developed. The job contract plus bonus wage system is becoming the principal form for issuing incentives to kolkhoz members and sovkhoz workers. More than 2,500 kolkhozes are paying wages to leaders and specialists based upon the gross income, the intensity of land utilization and the profitability level. And analysis has shown that this is producing fine results.

The oblast and rayon agroindustrial associations are expected to play a considerable role in improving the administration of the agroindustrial complex. In coordinating the activities of the APK organizations, in order to solve the more important and complex problems and in the interest of achieving the final goal -- increasing the production of agricultural products -- these associations, thanks to active support being provided by the party committees, are displaying more and more harmony and creative persistence in carrying out their work. Many of the councils of oblast and rayon agroindustrial associations are

exercising their right to concentrate the resources and efforts of the APK partners for the purpose of eliminating "bottlenecks," they are introducing scientific-technical progress into operations in an active manner, they are energetically mobilizing available reserves for the purpose of increasing the food resources and they are strengthening inter-branch relationships.

The RAPO's [rayon agroindustrial associations] play an especially great role in developing effective forms for linking science with production. A discussion held in the Central Committee of the Communist Party of the Ukraine on the work of the party organizations in Zhashkovskiy Rayon in Cherkassy Oblast and in Stryyskiy Rayon in Lvov Oblast concerning the use of scientific achievements in agricultural production has revealed that a fine return is realized in those areas where the party and agricultural organs devote serious attention to this problem. Thus, fruitful collaboration was organized in Zhashkovskiy Rayon between the farm specialists and scientists attached to the All-Union Scientific Research Institute for Sugar Beets. As a result, a scientifically sound system of farming has now been organized at the kolkhozes and sovkhoses, technological and operational charts for the cultivation of the principal agricultural crops have been developed and an efficient fertilization system has been prepared which takes into account laboratory studies of the soil of each field and also the soil charts. All of this made it possible for the rayon to increase considerably its production of sugar beets, the yield of which increased by 60 quintals compared to the previous five-year plan and the output of sugar reached 48 quintals per hectare. The following yields were also obtained here: 35.8 quintals of grain, 51.5 quintals of corn grain and 55 quintals of feed units per hectare. In addition, the plans for 3 years for selling animal husbandry products to the state were fulfilled.

This year the rayon's farms also sowed their sugar beets during the best agrotechnical periods and they are tending their plants in a high quality manner. The crops appear to be good and it is expected that the workers in Zhashkovskiy Rayon will successfully carry out their socialist obligations -- to obtain 440 quintals of sugar beets and to obtain 50 quintals of sugar from each hectare of sowing.

In Stryyskiy Rayon, with the aid of scientists from the Ukrainian Scientific Research Institute for the Physiology and Biochemistry of Agricultural Animals, measures were carried out aimed at improving production specialization and concentration, progressive technologies were introduced for the production of milk and beef and breeding work is being carried out on an extensive scale. Improvements have been carried out in the structure of the feed fields and in the recipes for mixed feed and cultivated pastures have been created. As a result, during 3 years of the present five-year plan and compared to the preceding five-year period, the average annual production of milk increased by 18 percent and meat -- by 29 percent, with the consumption of grain forage decreasing by one third per quintal of weight increase. Even higher results were obtained here during the first 6 months of this year. The plan for procuring meat was fulfilled by 167 percent, milk -- by 114, eggs -- by 211 and wool -- by 107 percent.

At the same time, many RAPO councils continue to be distracted to an excessive degree by petty current affairs and administration and in the process they are

neglecting large scale problems upon which their overall success is dependent. The party committees and particularly the newly created agricultural departments of rayon party committees are responsible for providing them with assistance in correcting these faults. The RAPO councils must mobilize the efforts of the APK partners in the interest of obtaining high final results and they must concentrate attention on achieving efficient and more effective use of the land resources, fixed capital, working capital and production capabilities. They must utilize more fully the rights and authority extended to them in the area of planning and the distribution of logistical and financial resources and they must centralize the carrying out of individual production-economic functions. Indeed, experience has shown that the formation and use of centralized funds and other economic levers which the RAPO's have at their disposal play an important role in smoothing out the differences in management and in improving the economies of backward kolkhozes and sovkhoses.

A situation can never be considered as normal where there are considerable differences in the equipment levels of farms. Kolkhozes which have 2,000 or more rubles worth of fixed capital per hectare produce more than twice as much output as farms which have a capital availability lower than 750 rubles. Certainly, we have in mind here not a "wage leveling factor," but rather the most efficient use of the available logistical resources and ensuring the planned rates for intensification, in other words -- a distribution for them which takes into account the requirement norms.

Importance is also attached to ensuring that the agroindustrial associations study and analyze thoroughly the results of the large-scale economic experiment which is being carried out, in accordance with a decision handed down by the CPSU Central Committee, in a number of branches of the country's national economy, including in the Ministry of the Food Industry for the UkSSR, an experiment the long-term goal of which is to introduce progressive developments into other branches of the APK. And there is food for thought here. The expansion in the rights of the leaders of enterprises and associations and the stimulation of high final results have brought about a noticeable increase in the activities of the workers. The workers are submitting numerous proposals for combining professions and for carrying out tasks using a smaller number of personnel. At many enterprises there no longer is a shortage of manpower. During the first 6 months of 1984, 130 million rubles worth of products were sold over and above the plan, the planned tasks for output sales volume taking into account the delivery obligations were fulfilled and, a point which is of special importance, the above-plan increase in labor productivity amounted to 2.9 percent and output production costs decreased by an additional 0.56 percent.

Measures directed towards the social reorganization of the rural areas are considered to be an important component part of the Food Program and at the same time a means for stimulating its fulfillment. This is a task of priority importance and the carrying out of this task must involve effort on the part of the party, soviet and economic organs and all communists in the various areas. And all action carried out here must be purposeful and persistent, with the infrastructure in the rural areas being developed in an active manner: municipal-road and socio-cultural construction, improvements in the sphere of services and, in particular, the construction of modern housing.

In recent years, solutions have been found for a large number of problems associated with drawing the standards of living of the rural and municipal populations closer together and overcoming the socio-economic and cultural-domestic differences between the city and countryside and between intellectual and physical labor. In conformity with the May 1982 decree of the CPSU Central Committee and the USSR Council of Ministers concerning measures for further improving the housing, communal-domestic and social-cultural living conditions of the rural population, an all-round program was developed and is now being carried out in connection with the socio-cultural development of the rural areas in the Ukrainian SSR during the 11th Five-Year Plan and for the period up to 1990. This will make it possible by the end of the 12th Five-Year Plan to raise the level of support for the rural population in terms of social-cultural-domestic objects up to the norm. The plans call for the allocation of 13.6 billion rubles for carrying out the mentioned program. During this current five-year plan the proportion of expenditures for improving the social-domestic living conditions of the rural population, compared to the overall volume of capital investments in agriculture, will increase compared to the 10th Five-Year Plan.

Taking into account the great importance attached to the solving of social problems, measures have been outlined in the republic for expanding and improving the construction of individual housing units in the rural areas. But here a great deal depends upon local initiative and upon the work of the village, settlement, rayon and oblast soviets of people's deputies. For example, in Dnepropetrovsk, Lvov, Rovno and Chernovtsy oblasts, where the local soviets truly participate in this work, the number of house builders per 1,000 rural families is greater by more than a factor of four than the figure for Zaporozhye, Kirovograd and Chernigov oblasts.

In solving the problem of the social development of the rural areas, the republic's party organizations must make more extensive use of the operational experience of Dnepropetrovsk Oblast. Here, in all of the rayons and at each kolkhoz and sovkhov, all-round plans have been developed and are persistently being carried out aimed at social-economic development, cooperation is being employed in the use of the resources of kolkhozes, sovkhovs and other agricultural enterprises and individual construction operations have been organized properly. For the construction of housing and social, cultural and domestic installations and also for carrying out civic improvements in rural populated points during the 11th Five-Year Plan, 281 million rubles have been allocated -- this is 8 percent more than the figure for the preceding five-year plan. It is important to ensure that housing is being erected in the oblast's rural areas at the same rate per 1,000 residents as is the case in the cities. Roughly 645 general plans for the building of rural populated points have been developed and approved. Well thought out solutions are also being found for the problems concerned with the social development of rural areas in the Crimean, Lvov, Kherson and a number of other oblasts, where the labor resources of the kolkhozes and sovkhovs have for all practical purposes been stabilized.

Prior to 1990, more than 40 million square meters of housing space must be made available at kolkhozes, sovkhovs and other agricultural enterprises throughout the republic. Of this amount, no less than 18 million square meters,

or 1.4 times more than during the preceding decade, must be provided by means of capital investments. A considerable increase must take place in the availability to rural populated points of central heating and water supply lines. Farmstead construction operations will be expanded and especially using the resources of contractual construction organizations. The overall volume of domestic services for the rural population will increased by twofold during the decade.

It is fully understandable that the carrying out of all of these plans must be the focus of attention by the party committees and primary party organizations. UkSSR Gosplan, UkSSR Gosbank, Minsel'stroy for the UkSSR, Ukrmezhkolkho'stroy, agricultural and other ministries and departments and the executive committees of soviets of people's deputies are obligated to furnish more practical assistance to the kolkhozes and sovkhoses in accelerating solutions for the vital tasks concerned with reorganization of the rural areas. The 1st secretaries of the rayon, municipal and oblast party committees must personally adopt a firm policy with regard to social-cultural construction in the rural areas. This point was emphasized in a report delivered by member of the Politburo of the CPSU Central Committee and 1st secretary of the Central Committee of the Communist Party of the Ukraine before a meeting of the republic's party-economic aktiv on 25 May 1984, when he stated that everyone must strive to carry out this important and urgent work in a better manner.

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EFFECT OF TECHNOLOGY ON AGRICULTURAL PRODUCTION INDEXES

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/Article by M. Sinyukov, academician at the All-Union Academy of Agricultural Sciences imeni V.I. Lenin: "Supplying Agriculture With Equipment and Growth in the Intensity of Social Production"/

/Text/ An important element of the party's economic strategy is that of bringing about a sharp change in the use of intensive factors. "We can and we wish to" emphasized Comrade K.U. Chernenko, "move forward more rapidly. Indeed, it is only on this basis that a more complete satisfaction of the material and spiritual needs of the people is considered to be feasible"*.

All of this applies completely to agricultural production. The technical reequipping of the branch, the use of chemical processes and land reclamation are having a decisive effect with regard to raising the level of production intensification and obtaining a maximum amount of output with minimal expenditures of labor and resources.

This is borne out in particular by the data provided in Table 1, which reveals that improvements take place in the economic indicators for the work of agricultural enterprises as growth takes place in production intensification. Thus, at sovkhoses in Smolensk Oblast, the value of the fixed productive capital per 100 hectares of agricultural land is 56,900 rubles and at sovkhoses in Moscow Oblast -- 229,600 rubles. In the first instance, the value of the gross output of animal husbandry and field crop husbandry per hectare of arable land equalled 320 and in the second instance -- 1,313 rubles, that is, greater by a factor of four. Labor productivity and, it follows, the wages of the workers were considerably higher at the sovkhoses in Moscow Oblast.

Data describing the effect generated by the level of technical equipping of agriculture on the effectiveness of field crop husbandry output production is of substantial interest (see Table 2).

Table 2 reveals that a close interdependence exists between technical equipping and production effectiveness. With an increase in the level of equipping, the

* Chernenko, K.U. People and Party United. Speech delivered before voters in the Kuybyshev Election District in the city of Moscow on 2 March 1984. Moscow, 1984, p 9.

Table 1

Economic Indicators for Development of Kolkhozes and Sovkhozes in Nonchernozem Zone of RSFSR Depending Upon the Level of Production Intensification

	Moscow Oblast		Smolensk Oblast		Ryazan Oblast	
	Sovkh- ozes	Kolkh- ozes	Sovkh- ozes	Kolkh- ozes	Sovkh- ozes	Kolkh- ozes
Level of Intensity						
Value of fixed productive capital of an agricultural nature per 100 hectares of agricultural land, thousands of rubles	229.6	326.2	56.9	86.6	72.4	69.3
Including tractors, combines, agricultural machines and trucks, thousands of rubles	21.6	27.2	10.1	12.2	12.8	10.7
Value of organic and mineral fertilizers per hectare of arable land, rubles	72.34	95.71	24.06	31.62	21.53	18.96
Effectiveness of Intensification						
Value of gross output of field crop husbandry and animal husbandry, rubles:						
per hectare of arable land	1313	1282	320	451	364	281
per worker in agricultural production	7997	6024	4654	4665	4945	3595
Wages per man-day, rubles	8.63	9.38	7.05	6.30	6.75	5.77

value of the gross output of field crop husbandry, per hectare of agricultural land, increases from 281 to 1,216 rubles. This is explained by the fact that with growth in technical equipping and, it follows, in the level of mechanization, improvements are realized in the agricultural practices and the periods for the carrying out of work are shortened and this in the final analysis has a positive effect on the operational results of enterprises. In the third group of kolkhozes, which had the best technical equipping, there was 12.1 percent more field crop husbandry output per ruble of expenditure than in the first group. A similar regularity is being observed in other regions of the country.

The CPSU and the Soviet Government are devoting a great amount of attention to supplying agriculture with new equipment and to the electrification of kolkhoz and sovkhov production. This has made it possible to raise considerably the level of mechanization for many labor-intensive processes in field crop husbandry and animal husbandry. At the present time, such important operations as plowing, the sowing of grain crops, cotton and sugar beets and the harvesting of grain and silage crops have been completely mechanized; the mechanization of potato planting work, inter-row tilling of sowings of sugar beets, corn and cotton, haying operations, the cleaning of grain, the harvesting of corn for grain using combines and other operations is nearing completion.

Table 2

**Effect of Level of Technical Equipping on Effectiveness of Production of
Field Crop Husbandry Products at Kolkhozes in Moscow Oblast (1982)**

Kolkhoz groups according to value of agricultural machines per hectare of agricultural land, in rubles	Nr. of farms in group	Value of machines per hectare of agricultural land, rubles	Gross output of field crop husbandry, in rubles	
			Per hectare of agricultural land	Per ruble of expenditure in field crop husbandry
Up to 200	22	142	281	0.70
From 200 to 300	14	241	413	0.78
More than 300	17	411	1216	0.85
Average	53	217	485	0.78

The increasing supply of equipment for agriculture and production intensification have exerted a positive effect with regard to raising yields, increasing output and raising the productivity of social labor. Compared to 1940, the gross output of agriculture in 1982 increased by a factor of 2.6 and labor productivity in agricultural production -- by a factor of 4.2. The average annual number of workers in all branches of agriculture during this period decreased by 5.2 million. The proportion of workers in agriculture and forestry (including on private plots) in 1940 amounted to 54 percent and in 1983 -- 20 percent of the overall number of workers in the country's national economy. At the present time, one agricultural worker produces sufficient products for roughly 12 individuals, whereas during the pre-war period -- for only seven.

In 1983, the agricultural workers, in carrying out the decisions of the May (1982) Plenum of the CPSU Central Committee concerned with implementing the Food Program, achieved substantial increases in the gross yields of sugar beets and potatoes, they procured more feed and harvested more grain; and increases took place in the purchases of milk, livestock, poultry and eggs. The overall value of the gross agricultural output amounted to almost 134 billion rubles, or 5 percent more than in 1982. Labor productivity (in public production) during this period increased by 6 percent. However, large reserves for further raising the productivity of social labor still remain unused at the kolkhozes, sovkhoses and other agricultural enterprises. Great importance is attached here to accelerating the rates for carrying out technical re-equipping work and for raising the capital supply for agriculture and its capital-labor ratio. It bears mentioning that agricultural production lags behind many other branches in terms of its level of fixed capital. At the beginning of 1983, the capital-labor ratio for one agricultural worker, on the average for the country as a whole, amounted to 10,500 rubles, or less by a factor of 1.6 than the figure for industry. At the same time, the specifics of agriculture (seasonal nature of production and so forth) dictate a need for a capital-labor ratio which at no time will be lower than that for industry.

Studies reveal that the requirements of the country's kolkhozes and sovkhoses for agricultural equipment are by no means being satisfied completely. The work

processes in feed production, vegetable production, horticulture and animal husbandry are still mechanized only weakly. Thus, in 1982 the level of complete mechanization on cattle farms was 48 percent and on hog and poultry raising farms -- 79 percent. As a result of this situation, labor expenditures for the production of agricultural products continue to remain high. During 1981-1982, the direct expenditures of labor for the production of 1 quintal of potatoes at sovkhozes in the USSR amounted on the average to 3.2 man-hours, sugar beets (industrial) -- 1.6, weight gain in young stock and weight gain from the fattening of cattle -- 4.2, milk -- 8 man-hours. This was roughly 3-5 times higher than the figures which were possible for the all-round mechanization of production. High labor expenditures per unit of product appear as a serious obstacle along the path leading to a reduction in production costs or realizing improvements in many other quality indicators for production.

One important reserve for further raising labor productivity is that of industrialization of agriculture based upon the development of and improvements in the country's agroindustrial complex, especially the first sphere of the APK [agroindustrial complex], which supplies the kolkhozes and sovkhozes with the means for industrial production. The country's scientific institutes and organizations developed a system of machines for the all-round mechanization of agriculture for 1981-1990, which responds more completely to the needs for large-scale production and ensures a sharp reduction in labor and material-monetary expenditures. For example, labor expenditures associated with the cultivation of soil and sowing of agricultural crops will be reduced by roughly 30 percent with the introduction of the mentioned system. In conformity with the latter, the overall production of technical items of equipment must be increased to 3,000, compared to the 1,800 types available at the present time. In the process, there will be a need for achieving further growth in the technical level, improving the quality of the machines being produced, improving the structure of the motor vehicle pool based upon raising the proportion of machines with large freight carrying capabilities and specialized motor vehicles and so forth. In addition to ensuring more complete utilization of the existing pool of vehicles and implements, all of this is viewed as being an important factor for reducing the expenditures of live labor and raising the efficiency of agricultural production.

Studies have shown that the best results are achieved when extensive mechanization is combined with other factors of production intensification, especially with the use of chemical processes, land reclamation and the introduction of scientific achievements and leading experience. If this is not done, then by no means can full use be made of the opportunities available for raising crop yields and the productivity of animals and reductions will take place in the effectiveness of equipment usage and in the profitability of enterprises.

In agriculture land is the chief means of production and the efficient use of land is one of the principal factors for rapidly increasing output volume, for lowering the prices of products and raising the profitability of production and the material welfare of the workers. In agriculture, as is known, the economic process of reproduction is intertwined with the natural process. The effectiveness of the branches of field crop husbandry and animal husbandry and

the operations of agricultural enterprises on the whole are dependent upon a complex of agrotechnical, zootechnical and other measures which were developed taking into account the local specific production conditions; the carrying out of these measures is strictly mandatory. Success in carrying out this work will be ensured by thorough knowledge of the production operations and the use of a creative approach by the leaders, specialists and all sovkhoz and kolkhoz workers when developing progressive measures and when carrying them out, while giving maximum consideration to the natural and other factors. K.A. Timiryazev emphasized that "nowhere and perhaps in no other activity is there a requirement for weighing so many diverse conditions for success, nowhere is there a requirement for so many types of information and nowhere can the enthusiasm of a unilateral point of view lead to such a large failure as in farming"*.

One of the chief regularities for a rational system of farming and for raising the economic fertility of soil -- the interrelated and indissoluble unity of the complex of factors which influences the harvest. Special importance is attached to a correct combining of mechanization and the use of chemical processes for agricultural production. "Although fertility is an object property of the soil" wrote K. Marx, "economically it still constantly involves the well known attitude -- the attitude towards the given level of development of chemical and mechanical resources for agriculture and thus it changes together with this level of development"**.

The supplying of agriculture with equipment and growth in the level of mechanization are promoting a reduction in the schedules for carrying out work, an improvement in the air and thermal regimes of the soil and a considerable increase in labor productivity. The application of mineral fertilizers and other chemical means enriches land by providing the required nutrients, improves its structure and creates more favorable conditions for the plants. With regard to the effect these factors have on the final results of economic activity, it can be said that the first of them -- mechanization -- brings about mainly a savings in live labor and growth in labor productivity during the intermediate stages in the production process; the second factor -- chemical processes combined with other agricultural methods -- raises the fertility of the soil and is responsible for the principal portion of the increase in yield.

The efficient and comprehensive use of chemical processes, together with supplying the kolkhozes and sovkhozes with equipment, appears as one of the chief means for achieving production intensification. The results of mass field tests carried out at the Central Institute for Agrochemical Services for Agriculture reveal that "the use of mineral fertilizers, depending upon the cultivation regions, produces an increase in wheat grain yield of 5.6-13 quintals per hectare, winter rye -- 5.8-11.1, spring wheat -- 1.6-7.4, barley -- 3.2-12.4, corn for grain -- 6.7-21.1, potatoes -- 49-89, sugar beets -- 50-153 and spinning flax (straw) -- 11.2-14.6 quintals per hectare. On the average, the use of mineral fertilizers is producing a 50 percent increase in yields throughout the country as a whole. A higher return based upon the use of

* Timiryazev, K.A. Works. Moscow, 1937, Vol. 3, p 71.

** Marx, K., Engels, F. Works. 2d edition, Vol. 25, Part II, p 202.

fertilizers is being observed in the nonchernozem zone and under irrigation conditions and the least -- in the dry steppe region"*.

In 1982, an average of 90 kilograms of mineral fertilizer was applied per hectare of arable land throughout the country, compared to only 28.4 kilograms in 1965 (in a conversion for 100 percent nutrients). However the requirements for such fertilizer are by no means being satisfied completely. Thus exceptional importance is being attached to the use of internal farm reserves and also to increasing the use of organic fertilizer. The task has been assigned of raising the volume of organic fertilizer applications to 1-1.2 billion tons by 1985 and improving the quality of liming work carried out on acid soils.

An important reserve for raising yields -- expanding the production and use of peat and manure composts, which make it possible to improve considerably the fertility of the soil and the effectiveness of crop cultivation. Experience has shown that the labor and material expenditures for preparing and applying a ton of such fertilizer amount to roughly 1.8-2.0 rubles. For a hectare norm of 12-14 tons, the grain yield increases by 4.5-5.0 quintals and potatoes -- by 25-30 quintals. The direct expenditures for procuring and applying compost amount to 25-28 rubles per hectare and the value expression for an increase in grain yield is 50-60 and potatoes -- 120-150 rubles.

Over the past few years, many of the country's farms have employed large quantities of peat for fertilizing their fields. However, serious shortcomings exist in the organization of this important work, with the chief one being that the peat is often applied in pure form. And certainly this cannot exert a substantial effect with regard to raising the effectiveness of the soil fertility or, it follows, the cropping power of the crops. Moreover, such use of peat promotes an increase in the acidity of soils and consequently exerts an adverse effect. Experience testifies to the fact that the greatest economic effect from peat applications is experienced when it is composted with manure, phosphorite meal or lime and used as peat manure. This raises the potato and vegetable yields by 50-60 quintals. Peat-mineral fertilizers are also furnishing positive results. When they are applied at the rate of 15-20 tons per hectare, the yield is raised by 50-60 percent and the production cost for a quintal of product decreases by 20-25 percent or more.

Weeds, diseases and plant pests cause great harm to agriculture. Thus an increase in production and the extensive introduction into operations of chemical agents for protecting plants are of exceptional importance at the present time. It has been estimated that each ruble expended for chemical protective measures safeguards products worth a considerably greater amount: grain -- 10 rubles, raw cotton -- 10, potatoes -- 24, fruit and berries -- 30 rubles. During the 10th Five-Year Plan, the value of the agricultural products obtained as a result of plant protective measures amounted to 5.5-6 billion rubles annually**.

* EKONOMIKA SEL'SKOGO KHOZYAYSTVA, 1980, No. 9, p 67.

** See: EKONOMIKA SEL'SKOGO KHOZYAYSTVA, 1980, No. 8, p 70.

In 1982, the volume of deliveries of chemical plant protective agents to agriculture throughout the country amounted to 305,000 tons (in a 100 percent computation for primary nutrient), including herbicides -- 142,000 tons. In 1985 it is expected that these deliveries will be increased to 680,000 tons and in 1990 -- to 750,000-790,000 tons. In the process, the requirements for herbicides, required by the kolkhozes and sovkhozes for introducing industrial technologies for the cultivation of agricultural crops, will be satisfied completely.

Great attention should be given to expanding the assortment and improving the quality of the mineral fertilizers and raising the proportion of nutrients in them. By 1990 the production of highly concentrated and complex fertilizers must amount to not less than 90 percent of their overall volume. All of them (with the exception of phosphorite meal) will be produced only in granulated and large-crystal form. The production of liquid complex fertilizers and also highly effective plant protective agents is being expanded; the deliveries to agriculture of chemical feed additives and feed preservatives are being increased in considerable amounts. At the same time, measures have been defined for creating the required logistical base for the use of chemical processes at kolkhozes, sovkhozes and by organizations of Sel'khozkhimiya: the plans call for the construction of warehouses, technical servicing points for vehicles, airfield runways, manure storehouses and other installations and in a manner such that the losses which occur in chemical products during their transporting, storage and application to the soil will be reduced to the maximum possible degree.

It should be emphasized that from the standpoint of environmental protection great importance is attached to making more extensive use of the biological methods for protecting plants, to ensuring the judicious and scientifically sound utilization of all types of chemical resources, to the strict observation and complete carrying out of all rules for the cultivation of agricultural crops, to achieving a sharp improvement in the overall culture of farming and to restoring proper order out on the fields.

Land reclamation plays an important role in intensification and in increasing the production of agricultural crops. At the present time, the kolkhozes and sovkhozes are carrying out a broad program of land reclamation work for the purpose of obtaining high and stable yields of grain and other agricultural crops. Meanwhile, a large volume of work is being carried out in connection with radically improving the meadows and pastures and liming acid soils; other measures are also being carried out directed towards promoting more productive utilization of the land areas.

In 1982 the area of irrigated land in the country reached 18.6 million hectares and drained land -- 14.2 million hectares. For the 1982 harvest, the agricultural crop sowing areas on the irrigated lands of kolkhozes, sovkhozes and other enterprises amounted to approximately 7 percent of the overall sowing area and the proportion of gross field crop husbandry output from irrigated lands equalled 28 percent of the overall volume of gross field crop husbandry output obtained from all lands. Moreover, the production of such valuable crops as rice and cotton is being carried out only on irrigated lands. Especially high

results are being realized from land reclamation operations during dry years (the yields being obtained are higher by a factor of 4-5 than those from conventional lands).

The task has been assigned in the USSR Food Program for further developing land reclamation operations and raising its role with regard to increasing the production of field crop husbandry and animal husbandry products. It is expected that in 1985 the area of irrigated land will be increased to 20.8 million hectares and by 1990 -- to 23-25 million hectares; drained land -- to 15.5 million and 18-19 million hectares respectively. The appropriate organizations and departments have been assigned the task of developing and organizing the series production of highly productive irrigation equipment, machines and mechanisms for the carrying out of land reclamation work and also the production and delivery to agriculture of 32,000 sprinkling machines of the 'Fregat' and 'Kuban' types. In the process, attention will be given to the more extensive introduction of new organizational forms for the operation of land reclamation systems and their technical servicing, to the use of highly efficient irrigation methods based upon the use of automatic and remote control systems and to the extensive use of polymer materials in land reclamation construction work. Importance is also attached to such problems as ensuring the all-round carrying out of land reclamation operations and the agricultural development of such lands, achieving the planned yields on the irrigated and drained lands, creating zones for the guaranteed production of grain, especially corn, in the regions for irrigated farming, organizing irrigated feed lands for animal husbandry complexes and organizing zones for the guaranteed production of vegetables and early potatoes in the vicinity of large cities and industrial centers.

It is known that land reclamation operations require great expenditures of labor and resources. The overall amount of capital investments for aquicultural construction during the years of the 9th Five-Year Plan, for agriculture as a whole, amounted to 19.3 billion rubles, 10th Five-Year Plan -- 23.9 billion rubles and during 2 years of the 11th Five-Year Plan (1981-1982) -- 9.7 billion rubles. Hence it is apparent that the efficient use of resources is an important state task and one which must always be the object of attention by the farm leaders and specialists and by all agricultural production workers.

The economic effect of capital investments in land reclamation is manifested in raised agricultural crop yields, growth in labor productivity and in reduced production costs. Moreover, the best results are achieved in those cases where the capital investments are carried out in a complex with other organizational and agrotechnical measures (development and introduction of special crop rotation plans, applications of lime and mineral fertilizers in the required amounts, application of herbicides, the use of highly productive varieties of agricultural crops and so forth) and with full consideration being given to the use of progressive technologies, scientific achievements and leading experience.

Improvements in seed production and the introduction of new highly productive varieties play a great role in raising the intensity of farming and the agricultural crop yields. From the standpoint of raising the effectiveness of mechanization, special interest is being displayed in the creation of short-

stalk varieties of grain (cereal) crops; at the present time, the ratio between the weight of the grain and straw is 1:1.5 and in many regions -- 1:2 and this lowers considerably the productivity of the combine units. In the overall weight of the grain bulk (biological yield), the proportion of straw is 55-60 and grain -- 40-45 percent. In the case of short-stalk varieties of wheat, the ratio is just the opposite -- the weight of the grain is considerably higher than that for the straw. An equally important advantage is the fact that they are more stable with regard to lodging and they are highly productive.

In the steppe regions of the country, one decisive factor for obtaining high and stable yields is that of striving to retain and correctly use as much moisture as possible. Among the measures which promote a sharp increase in yields, a special place is occupied by snow retention and the retention of runoff water. A reliable means is that of field-protective forest strips, which promote a considerable increase in the yields for all crops, especially during dry years. According to data obtained from a mass inspection carried out by the USSR Ministry of Agriculture, the use of field-protective forest strips produced increases in wheat yields as follows: in the forest zone -- 3.4 quintals per hectare, the steppe zone -- 3 and in the zone of dry steppes -- 4.3 quintals per hectare.

In the intensification of farming, an important role is played by the development and introduction of correct crop rotation plans and a more rational structure for the areas under crops. In this regard, great interest is being displayed in the results of a long-term experiment started in 1912 by D.N. Pryanishnikov at the Moscow Agricultural Academy imeni K.A. Timiryazev. According to data obtained from a field crop husbandry experimental station, the winter rye yield for the 1912-1981 period, with use being made of a single-crop system (without fertilization), amounted to 7.8 quintals per hectare and in a crop rotation plan -- 15.6 quintals, that is, twice as high. When a complex of fertilizers was employed, the yields increased to 14.1 and 22.5 quintals respectively. Even higher indicators were achieved for both situations against a lime background. This and other data reveals rather convincingly the relationship and interdependence of the principal factors affecting the yields and they point out the means to be employed for sharply raising the productivity of arable land and other agricultural lands.

Considerable economic importance is attached to agricultural production concentration -- the creation of branches of the proper size, an increase in the sowing areas for individual crops and consolidation of land tracts by stubbing out shrubs and carrying out other agrotechnical and organizational measures.

In many regions of the country the farms have extremely small tracts at their disposal and this lowers the effectiveness of use of the equipment. The greatest number of such farms (less than 3 hectares with a length of run of 300 meters) are located in the northwestern economic region of the RSFSR, in the Belorussian SSR and in the Baltic republics. An increase in the area of field tracts (certainly, in those areas where such is possible) -- is a chief factor for achieving more extensive introduction of technical resources into operations, for improving the organization of labor and for raising the productivity of the machine-tractor pool.

Tremendous reserves and opportunities for raising efficiency are to be found in the branches of animal husbandry. This concerns first of all the creation of a strong feed base and expanding the production of products on an industrial basis. Moreover, the introduction of industrial methods promotes improvements in the working conditions of the workers and makes it more attractive. Labor expenditures per quintal of output decrease by a factor of 3-4 or more and production costs -- by 30-50 percent.

Among the measures intended for raising the effectiveness of agriculture, a special place is occupied by improvements in the structure of capital investments -- the source for restoring and increasing the fixed productive capital. During 3 years of the 11th Five-Year Plan, 139.4 billion rubles were allocated for development of the agroindustrial complex, including 115.5 billion rubles for agriculture. A considerable portion of this amount was used for raising the fertility of lands, creating a stable feed base for animal husbandry and capabilities for the primary processing of goods, building warehouses and storehouses and modernizing and expanding animal husbandry facilities and other installations.

The construction in the rural areas of well planned dwellings with farm buildings for the maintenance of livestock and poultry, children's pre-school institutes, clubs and other installations of a cultural-domestic nature is being carried out at leading rates. All of this is making it possible to raise considerably the productivity of the fields and farms and it is serving as an important factor for further improving the working conditions and the daily routine of rural workers.

As already mentioned, exceptional importance is being attached to accelerating the rates for the technical re-equipping of agriculture and, on this basis, improving the structure of the fixed capital (towards raising the proportion of their active portion). Studies have shown that an increase in the proportion of the more active portion of the fixed capital (tractors, combines and so forth), all other conditions being equal, promotes considerable growth in the effectiveness of production: an increase takes place in the quantity of means of labor placed in operation as a rule by a fewer number of workers, who participate in the production of agricultural products. At the same time, the mechanical and other means of labor bear a portion of the cost for the newly created product, with this portion being equal to the annual amount of amortization. These gratuitous services of past labor, encompassed and enlivened by live labor, as noted by K. Marx, increase as savings grow*.

Thus, in a group of kolkhozes in Moscow Oblast, where the active portion of the fixed capital amounts to an average of 24.3 percent, 9.1 rubles worth of gross output were obtained per man-day and in a group of farms where the active capital amounted to 45 percent, its value reached 13.1 rubles, with the excess compared to the 1st group amounting to 44 percent. Considerable increases also took place in the output-capital ratio and in the profitability of production. The ratio between the cost of the buildings and installations and the cost of the equipment was 1:0.5 for the 1st group and 1:0.8 for the second group.

* See: Marx, K., Engels, F. Works, 2d edition, Vol. 23, p 622.

However this important factor factor is still not being taken into account fully, nor is it being used for raising the efficiency of social production. The rates of growth for the active means of labor are lagging behind the rates of increase for other elements of capital expenditures. Thus, in 1982 the proportion of power and operating machines and transport equipment in the structure of agricultural fixed productive capital of kolkhozes, sovkhoses and other state farms amounted to 20 percent compared to 24.3 percent at the end of 1962. Compared to 1962 when the ratio between the buildings and installations on the one hand and mechanical means of labor on the other equalled 2:1, in 1982 -- 3.18:1. In other words, a change had taken place towards an increase in the passive portion of the capital.

At leading enterprises, the proportion of the active portion of fixed capital is considerably higher than the average for the country. Moreover, its growth rates are leading rates compared to other means of production.

From the standpoint of improving and justifying a rational structure for the fixed productive capital of agriculture, interest is being displayed in data which describes the proportion of mechanical means of labor compared to the overall fixed capital structure for industry. In early 1983, the proportion of machines and equipment here was 39 percent, with power machines and equipment accounting for 7.6 percent and working machines and equipment -- 28.7 percent, that is, the ratio between them was 1:3.77 compared to 1:1.33 for agriculture throughout the country. According to estimates by economists, in the future the proportion of machines and equipment, compared to the overall capital structure for agriculture, must increase to 44-49 percent and buildings -- a reduction to 32-35 percent. The ratio for the value of tractors and agricultural machines, on the average for all agricultural production, will equal 1:3.08.

An equally important problem is that of establishing a rational ratio between the availability of fixed productive capital on the farms and the working capital (see Table 3).

Effect of Productive Capital Structure on the Effectiveness
of Kolkhoz Operations in Moscow Oblast (1982)

Kolkhoz groups according to ratio of fixed productive capital of an agricultural nature and working capital	Number of farms in group	Average capital ratio by group	Gross output produced by field crop husbandry and animal husbandry per ruble of fixed capital and working capital	
			Rubles	% of 1st group
Up 0.35	15	1:0.31	0.18	100
0.35 - 0.45	24	1:0.40	0.21	116.7
Higher than 0.45	13	1:0.52	0.25	138.9
Average	52	1:0.38	0.21	116.7

The following conclusions can be drawn based upon an analysis of the data in Table 3. First of all, great fluctuations are being observed at kolkhozes throughout the oblast in the ratios between the availability of fixed productive

capital of an agricultural nature and working capital. Compared to the 1st group of enterprises where there were 31 kopecks of working capital per ruble of fixed capital, in the 3d group this indicator was 52 kopecks, or almost 70 percent higher. Secondly, an improvement in the proportions between the fixed capital and working capital exerts a substantial effect on growth in the economic indicators for a public farm. The gross output yield of field crop husbandry and animal husbandry per ruble of fixed capital and working capital increases from 0.18 to 0.25 rubles -- or by almost 40 percent. At the same time, a considerable increase takes place in labor productivity and in the reimbursement for material and monetary expenditures associated with obtaining the output.

At the end of 1982, on the average for kolkhozes throughout the USSR, there were 0.41 rubles worth of material fixed capital per ruble of fixed productive capital. The establishment of an optimum ratio between fixed capital and working capital is a prerequisite for raising the effectiveness of use of capital investments in agriculture. With regard to individual enterprises, it will be necessary in each specific case to take into account specialization, the combining of branches and the operational experience of leading kolkhozes and sovkhozes which operate under similar natural-economic conditions.

Obviously, the questions discussed above do not fully reflect all aspects of the problem concerned with supplying agriculture with equipment and raising the intensity of social production. However, during this particular stage in the development of the productive forces and production relationships, we consider these to be the chief concerns -- aspects which are exerting a decisive influence on the effectiveness of agriculture. Correct and scientifically sound solutions for these problems will provide the foundation for raising labor productivity considerably and successfully carrying out the country's Food Program.

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AGRO-ECONOMICS AND ORGANIZATION

COMMISSION DISCUSSES APK DEVELOPMENT, POTENTIAL

Moscow IZVESTIYA in Russian 22 Nov 84 p 2

[Article by O. Pavlov: "The Agroindustrial Complex in Action"]

[Text] The state plan and state budget, in which the APK [agroindustrial complex] is presented as a single object for planning and financing, is being presented for the third time for examination by the deputies.

The plans call for increases mainly in the procurements of grain, sunflowers, sugar beets, potatoes, livestock, poultry, milk and vegetables.

The plans call for approximately 57 billion rubles to be allocated for developing the logistical base for the APK and 43 billion -- for agriculture.

The proportion of capital investments in the APK will amount to approximately 33 percent of the national economic investments.

More than 11 billion rubles are being allocated for carrying out an entire complex of land reclamation operations.

An improvement is being carried out in the structure of machines being made available to agriculture and more facilities are being placed in operation for ensuring the preservation of the products.

A chief trend -- maximum intensification of agricultural production and more complete use of the powerful production potential of the APK.

"The agroindustrial complex in action" -- this brief phrase was heard frequently in the Kremlin, during a meeting of the preparatory committee for the agroindustrial complex. It was heard in lobbies and it was mentioned in an informal manner; it gave specific meaning to those vital processes which take place in a live organism -- the agroindustrial complex in action.

It was in 1982 that I became acquainted with the work of this committee, which was meeting for the first time with a large, new and competent staff of representatives from more than 30 ministries and departments and also deputies of the USSR Supreme Soviet. I recall at the time there was much that was new and it seemed that some of the leaders of ministerial rank were still not accustomed to acting as a partner in a powerful and mutually-obligatory association, rather than as an autonomous departmental force, an association in which priority was assigned to agriculture -- the main element of the APK. The inter-departmental nature of the committee, the multiple-plan operations and the mutual coordination of problems among the branches gave this meeting a unique emotional atmosphere and a sharpness in the handling of a number of problems requiring basically new approaches.

Today, 2 years later, the theme of common operations, interrelated interests and mutual responsibility permeates the reports and speeches of the representatives of ministries and departments and deputies. Beyond any doubt, this is the result of the experience that has accumulated in all branches of the APK since the May (1982) Plenum of the CPSU Central Committee and the operational experience that has developed under the new economic conditions and organizational forms.

The committee operated under the chairmanship of Deputy F. Morgun, 1st secretary of the Poltava Oblast Committee of the Communist Party of the Ukraine.

Reports were delivered by G. Rudenko, chief of a summary department of the agroindustrial complex of USSR Gosplan and the 1st deputy minister of Finances for the USSR V. Dementsev.

Deputy M. Klepikov: "All of our successes in the carrying out of plans and in economics are dependent and will continue to be dependent upon the land and upon our attitude towards it.

Four years of the five-year plan were difficult for both farming and animal husbandry. This current year was marked by severe drought conditions. But our agriculture and agroindustrial complex are developing and becoming stronger from a production standpoint. The total amount of production for 1983-1984 will be greater by roughly 20 billion rubles than the figure for the first 2 years of the five-year plan. Gratifying changes have taken place in animal husbandry. The consumption level for certain valuable products has been raised.

At the present time, a favorable economic situation has been created in the APK -- this point was emphasized by all those who participated in the work of the preparatory committee. In particular, the following figures were cited. In 1983 the kolkhozes and sovkhoses were paid more than 21 billion rubles as a result of an increase in the purchase prices and the introduction of mark-ups added on to these prices in the case of low profitability and unprofitable farms. Debts amounting to 10 billion rubles were written off for backward and low profitability farms and bank indebtedness for more than 11 billion rubles was deferred. Last year the total amount of kolkhoz and sovkhos profitability amounted to 22 percent.

This year, an extremely difficult one, less profit is expected. Nevertheless the kolkhozes and sovkhozes possess the potential for fulfilling the 1985 plan and creating a strong stockpile for performing successful work during the 12th Five-Year Plan. A great amount of work remains to be carried out on the fields and farms and yet the principal trend with regard to the efforts by the farmers and their APK partners -- achieving a steady increase in the production of grain, consolidating the positive advances being realized in animal husbandry and accelerating its development.

Naturally, these two key tasks call for solutions for other extremely important problems -- such as raising the fertility of the land, improving the herd and strengthening the feed base decisively. And all of this is to be accomplished based upon comprehensive intensification. Once again the state, according to the deputies, is allocating large capital investments to the APK branches and supplying them with equipment, chemical materials and other resources. But a chief concern at the present time and in the future -- to use resources already available in a highly efficient manner, to introduce intensive technologies into operations and to obtain more products from the principal capital of the APK -- the land.

In speaking before the deputies, the 1st deputy minister of agriculture A. Gol'tsov stated that work has been carried out over the past 2 years aimed at introducing scientifically sound farming systems into operations. The goal of these systems -- to ensure stable operations in field crop husbandry, particularly with regard to the grain economy and feed production. Order is being restored in the crop rotation system and more extensive use is being made of the soil-protective system of farming. The area of clean fallow has been expanded to 21 million hectares and this is close to the optimum size.

Subsequently, A. Gol'tsov stated that the USSR Minsel'khoz /Ministry of Agriculture/ and VASKhNIL /All-Union Academy of Agricultural Sciences imeni V.I. Lenin/ were exercising special control over the introduction of intensive methods for cultivating winter and spring wheats. These measures have been approved by the Politburo of the CPSU Central Committee. A decision has been handed down calling for a concentration of mineral fertilizers, pesticides, equipment and other logistical resources and for them to be used in connection with an overall complex of operations and in the required quantities, so as to achieve a guaranteed increase in the yields of high quality strong and durum varieties of grain. In accordance with the new technology and just as planned, winter wheat has been planted on 6.4 million hectares and with all of the technological requirements being observed. Spring wheat must be sown in regions having more favorable soil-climatic conditions -- in the Volga region, Siberia, the Urals and in Kazakhstan -- on 10.5 million hectares.

The goal: in the future, to obtain 16-18 million additional tons of grain and in the immediate future to disseminate the industrial technology for use on 40 million hectares. The intensive technologies and programmed yields on reclaimed lands and particularly on irrigated lands must provide us with a guarantee for grain production at a level in keeping with the Food Program.

Over the past 2 years, a change has taken place in feed procurements. A decisive role has been played by reorientation of the psychology of many

economic leaders and specialists, who only recently determined the strength of the feed base mainly according to the quantities of grain that could be made available for forage purposes.

Today there is another trend: a predominance in the rations of hay, haylage, silage and root crops. In short, materials that are referred to as coarse and succulent feed. A record quantity of feed was procured in 1983, with coarse and succulent feed constituting 65 percent. Although this current year was a difficult one for the grain crops, nevertheless considerably more feed was procured than in 1982. Compared to the overall feed balance, the proportion of coarse and succulent feed amounted to 67 percent. This trend will be maintained in the future as a means for countering drought conditions and other onslaughts by the elements.

The land reclamation specialists are the chief allies of the farmers in the campaign to develop stable field crop husbandry operations. These APK partners possess great production potential and they are expected to increase the area of irrigated and drained land by a factor of 1.5 within a short period of time. The farmers can obtain one half of their field crop husbandry products from this land. In other words, the farmers' dependence upon the elements has been reduced sharply.

The 1985 tasks of the land reclamation specialists are indeed tense ones. Indeed they are even higher than those initially planned for the last year of the five-year plan. But according to P. Poladzade, 1st deputy minister for land reclamation and water resources for the USSR, there is simply no basis for our doubting their ability to carry out these tasks.

Deputy F. Morgun: the APK has achieved successes. But we must also take note of the bottlenecks and the causes of our failures.

It can be stated directly that both the reports and the first two speeches aroused considerable interest among the deputies. But a number of questions and critical comments arose as well.

Deputy V. Zabolotniy. The state has authorized the payment of considerable bonuses to backward and low profitability farms, with these bonuses being added on to the purchase prices for products. Information places at our disposal indicates that these bonuses are not always being used correctly.

V. Dementsev. Truly, our checks have shown that in a number of areas these bonuses have been paid out to farms having a profitability of 30 and even 50 percent. Meanwhile, these additional funds are not being made available to the low profitability farms. These are clear violations on the part of the local organs and agroindustrial associations. Measures are being undertaken to ensure that this does not happen in the future.

A number of critical comments were made concerning the USSR Minsel'khos. Deputy Ye. Auel'bekov mentioned the shortcomings noted in the breeding of strong and durum varieties of wheat. The old Saratovskaya-29 variety is still being sown on large areas in the virgin land. Just as in the past, the country's farms are growing very little buckwheat or millet.

But the conversation became even more heated when the deputies began discussing the speeches by representatives of those departments which earlier had been accused of not possessing a unilateral understanding of their role in the APK or of the quality required in their work and output. This included -- Goskomsel'khoztekhnika, Minplodoovoshchkhov /Ministry of the Fruit and Vegetable Industry/, Minzag /Ministry of Procurements/ and Minpishcheprom /Ministry of the Food Industry/.

It bears mentioning that the representatives of these organizations made fine preparations for delivering their reports to the deputies. Generally speaking, there were no cold-departmental or calm speeches and yet in this instance one could sense the desire on the part of the speakers to merge their concerns with the general affairs of the agroindustrial complex.

"I am not a novice in the branch" stated the 1st deputy minister of the USSR food industry F. Kolomiyets, "But I cannot recall such mutual understanding among the peasants as we are experiencing this year in the case of sugar beet procurements. Even last year there was a great amount of discord and confusion. This year we made fine preparations for the season and the farms and RAPO's /rayon agroindustrial associations/ have done just as well. In general, we are aware of the potential possessed by the agroindustrial complex. It is indeed great."

L. Khitrin, chairman of Goskomsel'khoztekhnika. This is not just our opinion -- we merged our views with estimates by the agricultural organs -- we can compose our plans better based upon the requests of kolkhoses, sovkholes and other APK partners and we can satisfy their requirements more completely. We are beginning to feel at home in the APK.

I. Shtodin, 1st deputy minister of procurements for the USSR. We are striving to take into account more completely the wishes of agriculture. For example, we are working out a program for ensuring that our enterprises are located as close as possible to the areas in which the products are produced.

It was noted that Minpishcheprom is fulfilling its plans for this year in terms of almost all items. It is expected that it will furnish more than 1 billion rubles worth of additional products (at existing retail prices). The opportunities are available for successfully completing the five-year plan. Minzag is coping with this year's tasks in terms of the principal technical-economic indicators. The plan for next year is very difficult and yet it too will be fulfilled. Minplodoovoshchkhov has purchased more vegetables than last year. The plans for 1985 call for increases in the procurements of potatoes, vegetables, fruit, berries and grapes.

The deputies displayed a great deal of exactingness towards the reports issued by the mentioned ministries and departments. For example, I. Ostapenko emphasized that the Minzag plan for purchases of strong wheats had been fulfilled by 44 percent and that for durum wheats -- by 4 percent. These indicators could be higher if the procurement specialists handled the grain products in a better manner. Just as in the past, the quality of the mixed feed is low. Checks were carried out at 231 enterprises of the ministry and it was discovered that 102 of them are guilty of violations in connection with their release of products.

Deputy F. Meshkov directed the attention of those in attendance to the fact that Sel'khoztekhnika is still performing in only a weak manner with regard to providing technical services for the farms. Its services are not being made available to 25 percent of the kolkhozes and sovkhozes. At the present time, 2.5 million cows are still being milked manually and the distribution of feed has been mechanized only 50 percent. Above-normal supplies of goods are accumulating in the warehouses of Sel'khoztekhnika. One third of these goods -- agricultural machines and one fourth -- spare parts.

Deputy S. Mamunts noted that direct contacts are being introduced only weakly into the Minplodoovoshchkhov system. In 1983 only 19 percent of the output was sold in accordance with the field-to-store system.

The deputies emphasized the fact that unfortunately these shortcomings have been noted more than once and that the time is at hand for dealing more strictly with the reasons for their occurrence.

Deputy D. Kachin: A special discussion should be held on the quality of the products and on the carrying out of previous recommendations by the committee.

Last year, in its recommendations, the committee required the ministries and departments to eliminate many shortcomings in their work and to issue reports attesting to this work. This year the USSR Ministry of the Meat and Dairy Industry provided a rather extensive report in this regard, but the deputies remained unconvinced.

And here is why. The committee carried out a thorough check and focused its attention on the quality of the products being produced by the ministry's enterprises. It turned out that considerable quantities of sausage products and meat were rejected this year. Yes and quite often the quality of a standard sausage was not very high. Only limited quantities of pelmeni (Siberian meat dumplings) and other products that are in high demand are being produced. The milk losses from containers exceed the norm by a factor of 2-2.5. But these losses are not shown in the reports; either they are covered by means of "reserves" or simply by surpluses realized during the acceptance and processing of the products. Minmyasomolprom /Ministry of the Meat and Dairy Industry/ did not fulfill completely the recommendations for increasing production or, even more important, for raising the quality of children's nourishment.

In any discussion, both sides of the argument must be heard. Thus the committee allowed the deputy minister of the meat and dairy industry V. Nikul'shin to deliver a report on the fulfillment of plans and to respond to questions by the deputies.

The ministry is coping well with its tasks. Over the 9 month period, the purchases of meat and milk increased compared to the figures for last year. Roughly 96,000 tons of sausage products, 554,000 tons of whole milk products, 23,000 tons of semi-finished meat products and more than 50 million cans of meat and dairy products were produced over and above the plan. In all -- for a total amount worth more than 30.5 billion rubles. Never before had this volume been so high.

The deputies listened to all of this in an attentive and understanding manner and they took note of the efforts by the ministry directed towards fulfilling the plan. Nevertheless, they pointed to the incomplete implementation of the previous recommendations by the committee, especially those concerned with the quality and preservation of the products and raw materials.

It bears mentioning that the deputies dealt very strictly with Minplodooveshchkhov, Minpishcheprom and partly with Minrybkhoz /Ministry of the Fish Industry/ regarding the quality and preservation of the products.

Reports were also delivered by the leaders of other ministries and departments included in the structure of the APK.

In the recommendations for the draft conclusion of the planning and budgetary and other permanent committees of the chambers of the USSR Supreme Soviet, the preparatory committee of the APK directed the attention of the ministries and departments to the need for making better use of all reserves for intensifying production, raising the quality of the products and their preservation and achieving more thrifty management.

It was recommended that the ministries and departments accelerate improvements in the economic relationships of agriculture with other branches of the APK and strengthen their orientation towards achieving high final results.

Thus the agroindustrial complex is in operation, it is passing through a formational stage and relationships between the partners are being strengthened. Up ahead a great amount of work remains to be carried out.

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